AnnualPAUL, REICH & MYERS, P.C.

By: Robert E. Paul, Esquire Identification No. 21252 1608 Walnut Street, Suite 500 Philadelphia, PA 19103 (215) 735-9200

Attorney for Plaintiff

IN THE UNITED STATES DISTRICT COURT FOR THE EASTERN DISTRICT OF PENNSYLVANIA CIVIL SECTION: TRIAL DIVISION

CALVIN DAMON and

CIVIL ACTION

ROSEANNE DAMON, h/w

.

vs. NO. 14-CV-1954

(*)

AIREON MANUFACTURING CORP., et al. SBESTOS CASE

ANSWER TO MOTION FOR SUMMARY JUDGMENT OF RAYTHEON

Defendant has failed in its burden on summary judgment. Its motion should be denied.

PAUL, REICH & MYERS, P.C.

ROBERT F PAUL

PAUL, REICH & MYERS, P.C. By: Robert E. Paul, Esquire Identification No. 21252 1608 Walnut Street, Suite 500 Philadelphia, PA 19103 (215) 735-9200

Attorney for Plaintiff

IN THE UNITED STATES DISTRICT COURT FOR THE EASTERN DISTRICT OF PENNSYLVANIA CIVIL SECTION: TRIAL DIVISION

CALVIN DAMON and

CIVIL ACTION

ROSEANNE DAMON, h/w

.

VS.

NO. 14-CV-1954

AIREON MANUFACTURING CORP., et al.

ASBESTOS CASE

MEMORANDUM IN OPPOSITION TO MOTION FOR SUMMARY JUDGMENT OF RAYTHEON

I. SUMMARY OF FACTS AND LEGAL ISSUES

Plaintiff was exposed to and inhaled asbestos dust when he opened up Raytheon radar equipment. The Raytheon equipment contained asbestos. When the case was removed to this Court on a defense to state court claims and perhaps became a maritime case still plaintiff retained his state law rights. The government contract defense is for a jury to resolve as the Court has previously ruled in this case. Defendant is liable in strict liability as there is no evidence the asbestos in the Raytheon equipment to which he was exposed was not the original. Under his Pennsylvania law claims he should be permitted to proceed. On the maritime claim in negligence he should be permitted to proceed against Raytheon for designing its equipment to

contain asbestos.

II. ACTUAL FACTS OF CASE

Damon's jobs in the Navy required him to work with radar and/or sonar equipment. (Exhibit A, 272-302). He worked with Raytheon radar sets. These pieces of equipment were located in what he called the ECM room (November 18, 2014 deposition Exhibit C NT 115). He had described the ECM room in the prior deposition as the electronic counter measures room (April 4 transcript 74). In the April 17, 2014 deposition he described exposure to dust from Raytheon products (Exhibit A, 271-303, especially 283-289). This included seeing dust on Raytheon gaskets he repaired. (284-295). The Raytheon components were the same on both ships (296-297). He took apart the gaskets from the Raytheon scope. In the April video (Exhibit B) he further described coating and gasket exposure dust from Raytheon products (37-46, 61). He worked on every piece of equipment in the command centers (116). He described how he removed the front cover and would remove the dust which had accumulated throughout the Raytheon product. (119, 121). His job required him to clean and dust out the unit (121). There is no evidence that these were not original equipment gaskets and coating and seals. This included packing and seals which were frayed from the heat (Exhibit C 63, 114-126, 151-152). Raytheon had sold a radar set AN/SPN-12 (XN-1)(Exhibit D). This was the product which he opened up as described above. The AN/SPN-12 (XN-1) was the product used on the USS Independence CVA-62 (Exhibit E), see page 3-1-1. This contained packing² described by

¹ Counsel for Raytheon objected to some of the testimony but not all. Counsel for Lockheed believed it was his obligation to object to every question.

² All high heat packing contained asbestos at that time (Exhibit K, Jewitt testimony)

Damon, see page 3-17 and seal with asbestos compound. Contained within the Raytheon product were asbestos products labeled seals and packing. A packing is a sealing type product. Faherty discusses the role asbestos sealing gaskets and wire played in Damon's injury (Exhibit F). Bendix/Honeywell's expert McCaffery had located the Navy documents that showed asbestos gaskets, board sealing compound and wire were used on ships during Damon's service (Exhibit G).

Despite Raytheon's attempts to recast the evidence the fact remains that he was exposed to asbestos dust emitted from Raytheon products from packing and seals designed and intended by Raytheon. Based on the evidence it was the first time the asbestos products were removed since their original installation since he noted over 15 years had passed since the last renewal (Exhibit C, NT 120).

Plaintiff's maritime expert will testify that some of the original equipment asbestos never left the products (Exhibit F, Faherty) and that the Navy required warnings and that Damon was exposed to asbestos from gaskets and wire. Dr. Frank stated he would testify based as to the role of each defendant compared to the totality of the exposure. (Exhibit H). While he did not write a 40 page opus describing the role of each defendant in the total picture, he stated he intended to discuss the role of each defendant based on the description of their role derived from the deposition and would discuss the history of knowledge of the hazards of asbestos (Exhibit I). Raytheon's founder was an MIT professor so it could easily have known of the hazards of asbestos (Exhibit J). Raytheon can hardly claim it is unaware of the evidence of exposure in the case.

III. LEGAL ISSUES

A. State Law Claims remain and the Court lacks Jurisdiction and Negligence and Strict Liability Claims under Pennsylvania and Maritime Law exist

It is plaintiff's contention that maritime law does not apply herein. It is to be remembered that maritime jurisdiction is limited see 28 U.S.C. 1333 (1). The section provides original but not exclusive jurisdiction to federal courts, saving to suitors in all cases all other remedies to which they are otherwise entitled. This Court has recognized this statute in such cases as *McKenna* 14-CV-6064 in which defendants sought to remove a case on the grounds of maritime jurisdiction. Relying on cases such as *James Lewis v. Lewis and Clark Marine*, 531 U.S. 438 (2001) this Court remanded on the grounds that state courts retain power over certain classes of cases. While This Court has chosen to exercise its pendent jurisdiction power to retain cases the state law claims remain to be tried alongside the maritime claims by the Court. Also see *Madruga v. Superior Court of California*, 346 U.S. 556 (1934).

Thus, the negligence claim against Raytheon under both state and federal law remains valid. This claim provides that if defendant designed its product to contain asbestos and failed to warn it remains liable for injuries caused by its product. This Court recognized such claims in *Schwartz v. Abex*, 2015 U.S. Dist Lexis 6807 (USDCEDPA 2015), under state law and in maritime in cases such as *Salisbury* 2014 U.S. Dist Lexis 11295 (USDCEDPA 2014). Other Courts have interpreted *Salisbury* as allowing plaintiff to proceed on negligence even when the strict liability claim fails see *Quirin v. Lorillard*, 17 F. Supp 3.d 760 (USDCNDILL 2014). Raytheon knew, should or could have known that asbestos was hazardous. As Dr. Frank notes in his affidavit the knowledge that asbestos was hazardous was widespread throughout the scientific community for many years (Exhibit I). Raytheon's founder was later dean of MIT's School of

Engineering (Exhibit J). Thus Raytheon had easy access from the beginning to all the scientific knowledge discussed by Dr. Frank. It should have acted to prevent injury in its designs and warn but failed to do either. Thus, under either maritime or state law it breached its duty to warn. On negligence whether in maritime or state law Restatement of Torts 2nd 388 provides that a defendant can be held liable if it knew or should have known of the hazards *Gresik v. PA Partners LP*, 33 A.3d 594 (Pa. 2011) (Pennsylvania) *Norfolk Shipbuilding & Drydock v. Garris*, 532 US 811 (2000), *Fisher v. Foster Wheeler*, 994 F. Supp 2.d 679 (ED PA 2014), *East River Steam Ship v. Transamerica DeLaval*, 476 U.S. 858 (1986), *Kermarec v. Compagnie Transatlantique* 358 U.S. 625 (1939)(Maritime). The Court, in denying plaintiff's motion to remand herein stated that plaintiff had created a jury question on the government contractors/specification defense.

On the government specifications defense Raytheon proffers no support for its claims. By contrast plaintiff, through his expert, Faherty (Exhibit F) relies on specific Navy requirements for warnings which Raytheon failed to obey. At least one Court has rejected Raytheon's defenses on this point. See *Hilbert v. McDonnell Douglas*, 07 CV 11900(USDCMASS 2008). This Court in denying plaintiff's motion for summary judgment in *Carper* and motion to remand in this case specifically ruled that a jury question existed on the issue of government specifications.

As to strict liability under maritime the Court's views are clear although erroneous and contrary to the requirements to protect seamen see *Moragne v. State Marine Lines*, 398 U.S. 375 (1970) discussion by Circuit Judge, Later Supreme Court Justice Story in *Hurden v. Gordon*, 111 F. Case 480 (D Maine 1823).

As to the state law the Court, in its Schwartz opinion rejected its own ruling in Hoffeditz

2011 U.S. Dist Lexis 110282 (USDCEDPA) and ignored the holding of *Burbage v. Boiler Engineering*, 249 A.2d 563 (1969). In that case the Supreme Court of Pennsylvania reviewed a case similar to this one. In *Burbage* a valve had been replaced on a boiler. The replacement valve which was not supplied by the boiler defendant malfunctioned caused injury. The Supreme Court upheld plaintiff's verdict against the boiler company on the grounds that from plaintiff's perspective it was defendant's boiler. The Court's *Schwartz* opinion disregards *Burbage* and should be rethought in light of *Burbage*. It still allows the negligence claim to proceed. Bare metal is not a recognized defense in negligence in any event. Raytheon could have known of the hazards yet failed to warn despite the Navy's. The motion should be denied.

PAUL, REICH & MYERS, P.C.

BY:

ROBERT E. PAUL

IN THE UNITED STATES DISTRICT COURT FOR THE EASTERN DISTRICT OF PENNSYLVANIA CIVIL SECTION: TRIAL DIVISION

CALVIN DAMON and ROSEANNE DAMON, h/w	:	CIVIL ACTION					
VS _∞ .	2 2 8	NO. 14-CV-1954					
AIREON MANUFACTURING CORP., et al.	•	ASBESTOS CASE					
ORDER							
AND NOW, to wit, this day of _		, 2015, the Answer to					
Motion for Summary Judgment of Raytheon is hereby Denied.							
	BY	THE COURT:					
	?	J.					

CERTIFICATE OF SERVICE

I, Robert E. Paul, Esquire, hereby certify that a true and correct copy of Plaintiff's Answer to Motion of Raytheon has been filed electronically. This document is available for viewing and downloading from the ECF system as was served upon all counsel of record.

Walust & Paul
Robert E. Paul

Date: August 14, 2015

EXHIBIT A

Frial Presentation

IN THE COURT OF COMMON PLEAS
OF PHILADELPHIA COUNTY
CIVIL SECTION: TRIAL DIVISION



CALVIN DAMON and ROSEANNE DAMON, h/w

FEBRUARY TERM, 2014

VS.

AIREON MANUFACTURING CORP., et al.

: NO. 2955

FRIDAY, APRIL 4, 2014

VOLUME I

Oral deposition of CALVIN

DAMON, was held at the Hotel Fauchere, 401

Broad Street, Milford, Pennsylvania,

commencing at 9:34 a.m., on the above date,

before Deborah A. Brazukas, a Registered

Professional Reporter, Certified Shorthand

Reporter of New Jersey, License No. XI 01938,

and Notary Public.

MAGNA LEGAL SERVICES (866) 624-6221 www.MagnalS.com



rscopes and the ECM equipment and 2 have the answer read back, please. 3 (Whereupon, the court reporter erent things. 4 read back the record as requested.) So I - I - I don't know if 5 BY MS. McCORMACK: inswering what the question -- how you Where was this machinery located -- you know, I have to answer it the way 6 7 on the ship? can. I can't --8 And I appreciate that. And A. There was -- there was -- major part of the machinery that I just talked 9 e doing fine. about was in the CIC room, combat room, CIC. 10 What -- you mentioned ECM Okay. Were there parts of the ment. What is that? 11 radar system that were somewhere other than 12 Electronie countermeasures. While you were on the Lake 13 the combat -- or the CIC room? plain, did you actually operate any of 14 There was -- yes, there were 15 the -- the power supply was in a different dar equipment? area, adjacent to the CIC room. Then there Yes, I did. 16 Do you recall about when you was some component areas one deck above the 17 operating the equipment? 18 CIC room. Probably -- I think -- I believe 19 Was there anything else in the Q. st of '64 is our first deployment out to CIC room besides the radar equipment? 20 21 Status boards, DRT tables. A. What type of work did you do, 22 Are you able to estimate for me Q. ally speaking, to operate the radar how big the CIC room was on the Champlain? 23 ment? 24 Forty by 40, 40 by 30. Page 75 Page 77 You would sit in front of the Is that your best estimate at 1 Q. cope and track paints or -- they call 2 this point? olips or paints on the scope. And that 3 A. indicate the direction of the fleet, 4 Do you recall the manufacturer of Q. her vehicle -- any other vessels that 5 any of the radar equipment on the Champlain? pproaching or that would have a impact 6 There was so many things that I fleet. 7 was learning as -- I was 17 years old. It Okay. You also indicated you 8 was the first time out of the house. So clean some of this machinery? everything was a new experience. There were 9 things that you would see that I've never 10 What type of -- what machinery seen before. And I remember there was tubes, 11 referring to? 12 and I remember Philco tubes, I remember In the very beginning, I would 13 Westinghouse. I remember -the -- we'd call it a pomsey brush. 14 DEFENSE COUNSEL: Can we have like a paintbrush. It was about an 15 the answer read back, please. und thick brush, and we used to -- my 16 MS. McCORMACK: Can he finish cause I couldn't touch anything, was 17 his answer first, please. this out and cleaning it out. And ne -- your E-6s or E-7s that were --18 Go ahead, sir. DEFENSE COUNSEL: We're losing work on it until they taught me what to 19 I was cleaning the machinery inside, 20 audio, just so that you guys know. the -- the front jackets of the --21 BY MS. McCORMACK: y, I don't -- front door of the 22 Okay. Can you finish your working in the --23 answer, sir? A. There was the -- Philco I believe



EXHIBITS

Trial Presentation

Document Management



IN THE UNITED STATES DISTRICT COURT FOR THE EASTERN DISTRICT OF PENNSYLVANIA

CALVIN DAMON and ROSEANNE DAMON, h/w

vs.

AIREON MANUFACTURING CORP., et al.

NO. 14-cv-01954-ER

THURSDAY, APRIL 17, 2014,

VOLUME II

CALVIN DAMON, was held at the Hotel Fauchere,
401 Broad Street, Milford, Pennsylvania,
commencing at 10:32 a.m., on the above date,
before Deborah A. Brazukas, a Registered
Professional Reporter, Certified Shorthand
Reporter of New Jersey, License No. XI 01938,
and Notary Public.

MAGNA LEGAL SERVICES (866) 624-6221 www.MagnalS.com



Page 118	Page 120		
lacking foundation as speculation.	1 I'm looking for. I just want you to tell me		
lacking foundation as ap	what you recall or what you know. That's		
- alley good	3 all.		
Sir, you bring up a really good We're asking you questions about point that happened many, many, many years	Okay. So MR. PRESENT: I object to that		
We're asking you questions about point that happened many, many, many years that happened many you say that you	11 1 I think you're looking		
	a di il almoratori		
the answer I was looking	a co ca arrilla Wall I'm looking		
c - c - corticular	that around he his best		
for I'm not to ask questions and			
answer. I just need to the find out what your memory is.	d IIII area on And IIII		
A. Yeah. A. Yeah. A. Yeah.			
A. Yeah. O. So if you don't remember, that's	12 moving on. 13 BY MR. SMITH:		
	The state of the s		
fine. If I ask for an estimate and you say you can't think of one that's reasonable in	14 Q. Sir, when you when you were 15 operating a radar		
your head	16 A Ves		
	2 you only came in contact with		
the please don't give the one.	metal and plastic and rubber. Is there any		
t finitely don't Want you to	other materials that you can think of?		
and the state of t	20 A. No. That's basically it.		
just want to figure out what you remoments	21 O. Okay.		
A Veah	You know, cop you know,		
MR. PRESENT: Objection. This	basically the internal part of the machine.		
was all explained to him at the very beginning of the deposition. You were	Q. Let's leave that aside. I'm		
Page 11	Page 121		
	talking about just the actual sitting down on		
present for that instruction that was	the radar screen and doing the functions		
given by Carolyn McCormack. So I object	3 A. Metal box.		
to the repetitious nature of this. This	Q of the CIC.		
is unnecessarily prolonging this	Γ Δ Metal box.		
deposition and costing all these different clients a lot more money.	O Okay. And another thing that we		
MR. SMITH: Well, counsel, if	have to be careful of is speaking over each		
you heard my objection, what I said	8 other, because the court reporter can only		
was he said to me, what is the answer	9 type one of us at one time.		
that I was looking for. Now, that says	So a metal box. And then if I		
to me the he did not understand the first	heard you right, you said the work that		
instruction, so I'm just repeating that.	the items that you would work on were the		
MR. PRESENT: Well, that	scopes, the ECM, you did work in the auxiliary room where the big boards were		
doesn't mean he doesn't remember. That	14 auxiliary room where the big boards were		
means he doesn't understand. But I can	15 powered from? 16 A. Right.		
understand why he doesn't understand your	1 1 the moder in the		
questions, because some of them are			
difficult for me to understand, and I'm a lawyer.	18 front coms? 19 A. Right. Con.		
	20 Q. What?		
BY MR. SMITH: Sounds good.	21 A. Con. Con, not com.		
What I'm but begins lly the	22 Q. Con, okay.		

22 23

24

Q. What I'm -- but basically the point I was trying to make is we're just trying -- I'm not -- there is no answer that

Q.

And then -- and then I think I heard you say on con on level -- well, strike

that?

24

the...

Page 275

1

2

3

4

5

6

7

8

9

10

11

12

13

14

15

16

17

18

19

20

21

22

23

24

1

2

3

4

5

6

7

8

9

10

11

12

13

14

15

16

17

18

19

20

21

22

23

24

Are you able to associate that name with any product?

1

2

3

4

5

6

7

8

9

10

11

12

13

14

15

16

17

21

22

1

2

3

4

5

6

7

8

9

12

13

14

15

16

17

18

19

20

21

22

23

24

I -- I saw it in a -- the housing of the scope, of the radarscope, I believe.

Okay. I'm just going to follow up on that. You said I believe. Do you know if you saw it in the scope of the radar, the housing of the radarscope? Do you --

I believe -- I have to say I believe that's where I saw it or in -- in one of the components of the ECM room, which we spoke-about.

Do you know which component?

I'm trying to take my mind back to those years.

No, I can't. I can't exactly put -- pinpoint which component.

All right. Now, I just -- I 18 missed this. I just want to clarify this. 19 Do you think it was in the radarscope or the 20

component of the ECM room or both or you're iust not sure?

23 I'm not sure. I just know that's one of the names I remember. 24

But you can answer.

THE WITNESS: I -- I don't know every product that I was exposed to had or had not asbestos. I am quite confident that most of the materials used aboard a lake -- the Lake Champlain or any other ship manufactured in the '40s had asbestos. And most of the products that were to prevent heat loss or control heat had asbestos in them. I believe the Raytheon was on a -- the back of the unit when they took it apart. To tell you exactly where it was, I could not.

MS. RIECHELSON: Move to strike the nonresponsive portions.

MR. KATTNER: Speculative; lack of foundation.

MR. SMITH: Yes.

MR. PRESENT: Don't worry about what they're saying. Just answer the questions.

BY MS. McCORMACK:

Did you take this piece of equipment apart, or did someone around you do

Page 273

Okay. Since you recognize the name, but you can't necessarily associate it with a particular product, would you agree with me that you cannot associate any of your exposure to asbestos-containing products with Raytheon?

MR. PRESENT: Objection.

But you can answer.

THE WITNESS: I'm not exactly

10 sure what your question is. 11

BY MS. McCORMACK:

Okay. I can repeat it. Thank you for letting me know.

You told me you know the name Raytheon, correct?

A.

You're not sure what product you O. associate the name with, correct?

Yes, I'm not a hundred percent positive.

And since you're not sure what the product is, you can't tell me if that product contained asbestos, correct?

MR. PRESENT: Objection.

that?

As an E-4, we were able to completely disassemble the equipment. As an E-3, we were learning how. So as an E-3 and E-4, I was around the scopes and the -- well, I wasn't in the ECM room until I was an E-4, but -- so yes.

Okay. You said you thought you may have seen the name Raytheon on the back of the unit. How was -- how did the name appear?

How did it appear? It would have A. to be printed on it somewhere for me to recognize the name or -- that -- that would be it. I'd have to say that.

Do you recall if it was directly printed on the equipment itself, if it was on a name plate, if it was on a sticker or anything of that nature?

I'm not sure. Because I remember asking one of the guys I was with how to pronounce it. So I'm -- it was written somewhere, but I can't tell you where.

Do you recall who you asked how

24

1

2

3

4

5

6

7

8

9

12

13

14

15

16

17

18

19

20

21

22

23

24

Page 277

Page 279

1 asbestos-containing products?

> A. No.

O.

22

23

24

2

3

4

5

6

7

8

9

10

11

12

13

14

15

16

17

18

19

20

21

22

23

24

Did you ever speak with anyone from Raytheon?

Did you ever see anything for

this component part specifying the use of

(The witness shakes head.) A.

Is that a no? Q.

No. Unless they were in A. disguise.

Do you have any reason to believe they were there in disguise?

> No. A.

And any repairs done to this equipment were done under the direction of your superior officers, correct?

Repeat the question. A.

Absolutely.

Any repairs or maintenance you would have done to this component part, they were done under the direction of your superior officers, correct?

Petty officers, not officers. They were higher ranking enlisted men.

And these repairs or replacements were done according to Navy specifications? Island. We were deployed from that point. So any point after that -- leaving Quonset Point was at sea. But we were not at our

to answer your question, at sea, we were not

at our home port in Quonset Point, Rhode

home port. And I think I -- hopefully I'm answering your question correctly.

You are. But don't worry about whether you're making me happy with the -- if it's the answer I'm looking for.

I'm not trying to make you happy.

I'm trying to answer your question. 10 11

Do you associate any product number or any designation with this Raytheon component part?

No. A.

And I'm just going to ask you, just because we've been talking about it a little bit, do you have any recollection now as to what component part it may have been that you associate with Raytheon?

A. Unless I sat down and really tried to pull apart a scope for -- I couldn't tell you. I'd have to sit and try to go over what I did and -- and everything. And I really can't. I don't -- unless you want to

2

3

4

5

6

7

8

9

10

11

12

13

16

17

18

19

20

21

22

23

24

4

5

6

9

10

11

12

13

16

17

18

19

20

21

22

23

24

Page 283

EXHIBITS

e in a trance. No. No. We're not trying to do that I figured since we were jogging your iry, I would take another shot, but --I'm trying to go through

ent items in my head.

MS. McCORMACK: All right. Damon, I'm going to take a look at my es. I think right now those may be questions I have. I will take a look ny notes. And if I have anything I will ask you. I will come back to ask you some more questions about r medical history after everyone else had an opportunity to ask you some stions.

THE WITNESS: Okay.

MS. McCORMACK: Thank you very th for your time.

MR. PRESENT: I have a couple stions I'm going to ask just on one e. But I'm going to do that not now when you're done. Do you need a s of water or are you good?

Okay. Just as a general idea, were you in other parts of the ship? Like were you in, you know, a room or a -- where you slept, in the mess hall where you ate, and in other areas of the ship as well?

BY MR. PRESENT:

Q. Would you say at one time or another that you traveled, let's say for the Independence, the entire ship?

DEFENSE COUNSEL: Objection to

form; leading.

MR. SMITH: Objection;

14 overbroad. 15

BY MR. PRESENT: Go ahead. You can answer.

The Lake Champlain and the Independence or just the Independence?

Q. Just the Independence for now.

Pretty much, yes. A.

Okay. And would the same be true Q. on the Lake Champlain?

A. Yes.

MR. SCHEETS: Same objection.

Page 281

THE WITNESS: I'm good.

EXAMINATION

PRESENT:

Anyway, can you hear me okay? Yes, I can.

All right. I just want to focus time on the ships, on the idence and the Champlain.

Yes.

With respect to your time on both ships -- and I think this has been gone over, but I just want to cene a little bit. And hopefully no object to this, since it's been hed fairly conclusively. But would rect that most of your time on both? ships was spent in the radar room ou were working? Is that correct? MS. McCORMACK: Objection to

THE WITNESS: When I was ing, yes.

1 MS. McCORMACK: Objection to 2 form. 3

MR. SMITH: Objection; leading; lacks foundation; calls for speculation; overbroad as to time.

MR. PRESENT: Thank you.

7 BY MR. PRESENT: 8

Anyway, with respect to the -your time in the radar room, you spoke with Ms. McCormack about taking apart scopes and seeing the name Raytheon. Do you recall that testimony now? It was just recently.

A. Yes.

14 MS. McCORMACK: Objection to 15 form.

BY MR. PRESENT:

Okay. With respect to the Independence, can you give me some idea how often you would be either working on a scope or in the vicinity of someone else working on a scope where you would see the name Raytheon over the course of your time on the Independence?

MS. McCORMACK: Objection;

Page 285

1

2

3

4

5

6

7

8

9

10

11

12

13

14

15

16

17

18

19

20

21

22

23

24

Page 287

MR. SMITH: Respectfully move to strike nonresponsive portions and 2 portions lacking in foundation and based 3 on speculation. 4 5

BY MR. PRESENT:

1

6

7

8

9

10

11

12

13

14

15

16

17

18

19

20

21

22

23

24

Don't worry about that. But leaving that aside, what he said -- and he's probably going to object to every question I ask, even though there's only been, in the State of Pennsylvania, believe it or not, five reversals on evidentiary grounds since I've been a lawyer, which has been, you know, at least ten years, maybe longer.

Anyway, so what I want to know at this juncture is, when you would open these scopes where you saw the name Raytheon, you talked about this process of dusting them out, would -- would this happen each time one of those scopes were opened up?

MS. McCORMACK: Objection. MR. SMITH: Objection; vague ambiguous; overbroad.

BY MR. PRESENT:

out of it. And it would go to where -you know, in our faces, up in the air. If we didn't have a vacuum cleaner to -you know, that's one of the other things we did was vacuum it down.

MR. PRESENT: Okay. THE WITNESS: Initially, when you opened it, everything came out. BY MR. PRESENT:

Q. When the dust went into the air and in your face, would that have any effect on your respiratory system or your breathing --

MS. McCORMACK: Objection. MR. SMITH: Objection. MR. PRESENT: -- at all? MR. SMITH: Vague; ambiguous; overbroad.

BY MR. PRESENT:

Go ahead. You can answer. Q.

When any dust or debris comes into your nose or mouth, you do breathe -gag, cough so... MR. SMITH: Leading objection;

Page 291

1

2

3

4

5

6

7

8

9

10/

11

12

13

14

15

17

18

19

20

21

22

23

24

7

8

9

10

11

12

13

15

16

17

18

19

23

24

lacks foundation; calls for speculation; 1 move to strike as nonresponsive. 2 3 BY MR. PRESENT: And regardless of whether you 4 were on -- regardless of whether you were on 5 6 the --(Whereupon, there was a brief 7 interruption.) 8 (Whereupon, there was a 9 discussion held off the record.) 10 BY MR. PRESENT: 11 Q. Anyway, when you would -- when 12 you would, you know, do this, you know, 13 take-apart thing with a scope and saw the 14 name Raytheon, would this dust that you've 15 been speaking of, would that be in the air 16 and in your face each time that you would 17

> you would work on that area? MS. McCORMACK: Objection; leading; lack of foundation. MR. SMITH: Objection.

either -- when you would -- each time that

22 BY MR. PRESENT: 23

18

19

20

21

24

23

?4

Would that happen each time?

MR. PRESENT: I get it. THE WITNESS: So yes, every time something was opened, myself or anyone that was on duty at that point in time inhaled the dust.

BY MR. PRESENT:

Okay. And if we were to -- if I were to ask you the same questions about Raytheon and this various activity of taking apart scopes in terms of its frequency and its effect on the air, would your answers be the same for the Champlain that they are for the Independence?

MS. McCORMACK: Objection. MR. SMITH: Same objections.

16 BY MR. PRESENT:

Go ahead. You can answer.

A. Yes.

At any time when you would look O. at any of the Raytheon name on -- on this equipment, when the scopes were being taken apart, and dust and such, did you ever see any kind of, you know, big bold warning or skull and cross bones that said, be careful,

Page 289

dust from this item or from this area could 1 potentially cause cancer and is hazardous to 2 your health? Did you ever see anything like/ 3 4 that on there? 5

No. Α. 6

MS. McCORMACK: Objection to form.

MR. SMITH: Vague and ambiguous; overbroad.

THE WITNESS: The only warnings that were on --

MR. PRESENT: I --THE WITNESS: Okay.

14 BY MR. PRESENT:

In any event, did you see any warnings telling you that you could get lung cancer from that dust? That's what I want to know.

No. A.

2.0 O. Okay.

21 MS. McCORMACK: Objection to 22

MR. SMITH: Same objections, plus leading.

Yes. 1 A. And how about if you weren't 2 Q. working on it but one of your colleagues, 3 another E-4 or whatever would be working on 4 it, would you also have -- would the dust 5 also have an affect on you when you were in 6 the vicinity of someone else doing that job? 7 MS. McCORMACK: Same 8 objections. 9 MR. SMITH: Objection; vague; 10 ambiguous; overbroad; lack of foundation; 11 calls for speculation, expert opinion. 12 THE WITNESS: I have to clarify 13 what I'm saying. You're in an area 14 that's no bigger than this room. 15 MR. PRESENT: Okay. 16 THE WITNESS: When anything 17 happened, there was no windows. Now, 18 we're in the midship. There's no 19 ventilation other than what's in there 20 and it's recycled air. So if you open 21 something back by that window, which was 22

20 or 30 feet, it was contained in the

same area that you were working.

ambiguous; overbroad; asked and answered. MR. PRESENT: Go ahead. It's a perfect question, so he can answer it. MR. SMITH: Calls for

speculation.

17

18

19

20

21

22

23

?4

THE WITNESS: When you opened a scope or any electrical equipment, when

Am I correct that you told me before you only recall the Raytheon name in connection with the Lake Champlain?

- A. The most --
- Or are you not sure what ship? Q.
- I -- I am -- I am sure it was on the Lake Champlain. I can't say I remember it as distinctly on the Independence.



18

19

20

21

2.2

23

24

2

3

4

5

8

9

10

11

12

13

14

15

16

17

18

19

22

24

1

2

3

4

5

6

7

8

9

10

11

12

13

14

15

16

17

23

24

Okay. So it's fair to say you recall the name Raytheon on the Lake Champlain?

A. Yes.

15

16

17

1

2

3

4

5

6

7

8

9

10

11

12

13

14

15

16

17

18

19

20

22

23

24

Q. And on the Independence you're 18 19 not sure?

I -- I'm -- yeah, I -- I have to 20 A. say yes, because they were -- you know, it 21

was -- did it stick out -- like I said 22

briefly, did it stick out? No. But it was 23

24 there. It was the same components. So I -- he recalls the Raytheon name on the Champlain and the Independence, but not as strongly on the Independence as the Lake Champlain. That's as far as we got. DEFENSE COUNSEL: Okay, great.

6 Thanks. Appreciate it. 7 BY MS. McCORMACK:

You don't know what the component part is that you associate with Raytheon, correct?

A. It was on the -- as I'm thinking, as you ask me to recall, I -- to the best of my recollection, it was on the plate of the -- the removal plate. So it was somewhere on the plate itself, the -- the front, the side, the back. It was on a plate.

And when you say the plate, what are you referring to?

20 A. It's the cover.

Just the cover? 21 Q.

It's the front, it's the back, A.

23 it's the side, the plates.

Okay. And you don't recall which

Page 299

Page 297

I'm saying yes, that it was on both ships. Okay. And you don't recall which component it was on either ship, correct? (Whereupon, there was a brief interruption.) THE WITNESS: I'm sorry. MS. McCORMACK: Do you want me to ask the question again? THE WITNESS: Yes, please. BY MS. McCORMACK: Q. You do not recall the component part for -- that you associate with Raytheon on either ship, correct?

The exact component, I would --I'm trying --

DEFENSE COUNSEL: Can we interrupt you. We have been missing the last two minutes of testimony.

Can you hear me?

MS. McCORMACK: We can hear

21 you.

DEFENSE COUNSEL: Can the reporter just read back since the break?

MS. McCORMACK: Since the break

plate it was?

No. Α.

Okay. And you only removed and replaced the component parts, correct? You did not open and repair any of the internal parts in a component part, correct?

No. If I'm -- understood your question correctly, when you take apart the scope, you -- if you -- if you're working on the front part, you're taking off the front. When you're working on the rear part, you take off the rear. And you're working on everything inside the scope itself.

Okay. And I -- you told us the other day you did not have any training in repairing or replacing the internal --

As an E --A.

-- internals of the component 18 Q. 19 parts?

I was on-the-job training as an 20 E-3, working alongside an E-4 and E-5. I 21 didn't go to a A school, a radar A school. 22

And Mr. Present talked to you a bunch about some dust that you associated

Page 303

1

2

3

4

5

6

7

8

10

11

13

14

15

16

17

18

19

20

21

22

23

24

1

2

3/

4

5

6

7

8

9

10

11

12

13

14

15

16

17

18

19

20

21

22

23

24

with the inside of these component parts. Do you know the composition of any of that dust? MR. SMITH: Asked and answered. THE WITNESS: Dust.

BY MS. McCORMACK:

1

2

3

4

5

6

7

8

9

10

11

12

13

14

15

16

17

18

19

20

21

22

23

24

1

2

3

4

5

6

7

8

9

10

11

12

13

14

15

18

19

20

21

22

23

?4

- Okay. But you don't know what the dust was -- was made of, correct?
- It would be an assumption on my A. part.
- Okay. And you mentioned you saw the name Raytheon on the -- one of the plates. How big was the name?
 - Approximately two inches. A.
- Was it in block print? Was it in Q. cursive, capital letters, small letters?
- I was thinking of that when you just said it, when the other attorney asked me that last week with the -- with the Philco, you know, was it block or was it cursive. And it was just a fancy P. I would have to say it was, you know, bold print when -- to his question. I believe it was just print. I don't believe it was script or anything real fancy.

like focus on the point that -- at the questioning where Ms. McCormack was asking you about dust. But when she asked you about the dust, she said to you, Mr. Damon, you can't really tell me what the component parts of the dust was. Do you remember her asking you that?

A. Yes. 9 Q. Okay.

MS. McCORMACK: Objection to form.

BY MR. PRESENT: 12

The dust that you saw, was that dust only visible when the -- the area was opened and the -- you know, the front was taken off the -- the equipment in order to do the maintenance or make the repairs? Is that when the dust came out of there?

MS. McCORMACK: Objection; misstates prior testimony; lack of foundation.

THE WITNESS: Yes.

MR. SMITH: Objection to form.

BY MR. PRESENT:

Page 301

- Do you associate any color with Q. it?
 - Black. A.
- Was there any other writing there Ο. besides the word Raytheon?
- There was -- there was Raytheon; then some numbers next to it. And then I think it repeated itself.
- Do you recall any of the numbers that were next to Raytheon?
- Zero through nine.

MS. McCORMACK: I believe those are all the questions I have at this point. Thank you very much for your time, Mr. Damon.

16 17 EXAMINATION

BY MR. PRESENT:

Q. Mr. Damon, I'm just going to focus for a minute in terms of my follow-up questions to Ms. McCormack's questions on the dust that you were talking about. She asked you at -- and I'm just doing this to kind of

Okay. And just based on what you saw, do you believe, from what you saw, that -- or do you know from what you saw that any of the dust that emanated from the area where you saw the name Raytheon, came from whatever was part of that equipment?

Ms. McCORMACK: Objection. MR. SMITH: Objection; vague and ambiguous.

THE WITNESS: Yes. MR. PRESENT: All right. That's the only question I have then. Nothing else.

MS. McCORMACK: I do not have any more questions. Thank you. (Whereupon, there was a discussion held off the record.) (Whereupon, a lunch recess was taken.)

EXAMINATION

BY MR. KATTNER:

Ready to resume, Mr. Damon?

EXHIBIT B

Trial Presentation

Document Management

IN THE UNITED STATES DISTRICT COURT FOR THE EASTERN DISTRICT OF PENNSYLVANIA

CALVIN DAMON and ROSEANNE DAMON, h/w

ORIGINAL.

VS.

AIREON MANUFACTURING CORP., et al.

NO. 14-cv-01954-ER

MONDAY, APRIL 28, 2014

Videotaped deposition of

CALVIN DAMON, was held at the Hotel Fauchere,

401 Broad Street, Milford, Pennsylvania,

commencing at 2:02 p.m., on the above date,

before Deborah A. Brazukas, a Registered

Professional Reporter, Certified Shorthand

Reporter of New Jersey, License No. XI 01938,

and Notary Public.

MAGNA LEGAL SERVICES (866) 624-6221 www.MagnalS.com



Page 34 Page 36 give me five minutes. 1 MR. SMITH: Okay. MR. PRESENT: No. You know 2 MR. PRESENT: And it is a what, Mr. Damon has not been feeling 3 legitimate offer. And I object to you well. He's been coughing frequently. making that comment about me. 4 He's been here a long time today asking 5 MR. SMITH: Well, then you questions. He's expecting a grandchild 6 should give me two minutes. today. I am not going to delay this any 7 MR. PRESENT: I'm not. It's further. Okay. That is my position. 8 going to take you a lot longer than two And I'm not changing it. 9 minutes, Mr. Smith. And I'm not delaying MR. SMITH: Okay. Just for the 10 this for you to do legal research. record --11 MR. SMITH: It's not legal MR. PRESENT: Just so you 12 research. understand. 13 MR. PRESENT: Okay, fine. MR. SMITH: Okay. Will you let 14 Well, we're going to proceed. me speak for once and stop --15 Can you read me back the last MR. PRESENT: I have never 16 questions, please. stopped you from speaking. 17 (Whereupon, the court reporter MR. SMITH: Okay, Well, let's 18 read back the record as requested.) try it one more time. Just for the 19 THE VIDEOTAPE OPERATOR: The record, if plaintiff's counsel's offer 20 time is 2:25 p.m. We are back on the was actually valid, I think he could 21 record. spare a few minutes while I look into 22 BY MR. PRESENT: this. He's saying he can't. And that 23 Mr. Damon, with respect to your leads me to believe that he's just trying 24 exposure in the radar room, do you happen to Page 35 to create a record that doesn't really Page 37 remember any of the names of the equipment 1 rely on anything in fact. 2 that you encountered while you were in the MR. PRESENT: Well, I object to 3 that accusation. If you don't -- if radar room? 4 you're going to enter into this MS. RIECHELSON: Objection; 5 deposition, you should have knowledge of form. 6 the law and what works and what doesn't MS. McCORMACK: Objection; 7 form. work. 8 MR. SMITH: And I can't make MR. SMITH: Objection; speaking objections -- I can't make 9 foundation; calls for speculation. objections that -- what is -- show me the 10 THE WITNESS: The names that I rule where I can't make objections, 11 recalled was the Philco, the Bendix, Eliot? Show me -- point to me a case, 12 Westinghouse, and Raytheon. anything --13 BY MR. PRESENT: MR. PRESENT: You know what, I 14 Okay. With respect to the did not know you were not going to be 15 Raytheon equipment, did you work on Raytheon familiar with the rules, and I didn't 16 equipment? bring a rule book today. 17 MS. McCORMACK: Objection; MR. SMITH: I'm very familiar 18 form. with the rules. 19 THE WITNESS: The equipment MR. PRESENT: I'm letting you 20 know what my offer is. I'm not going to was -- Raytheon, I -- I -- as I remember, delay this any further. Make your 21 was a -- a coating, a gasket. It wasn't 22 objections as you see fit. an equipment. It was a protective-type 23 thing. That's all I remember. 24 MR. SMITH: Respectfully move



Page 40 Page 38 MR. SMITH: Objection; lacks 1 foundation; calls for speculation -ke the nonresponsive portions. 2 THE WITNESS: Yes. PRESENT: 3 Okay. And in what part of the MR. SMITH: -- calls for expert 4 m was this? opinion. 5 MR. SMITH: Objection; THE WITNESS: Yes. 6 BY MR. PRESENT: road. 7 And in what way did it affect the PRESENT: 8 The Raytheon material that you're atmosphere? 9 MR. SMITH: Same objections. 10 It was -- I believe it was in the THE WITNESS: Dust, dust and 11 nemselves. 12 dust. Okay. And with respect to that would you work on those scopes? BY MR. PRESENT: 13 Okay. And -- and where would 14 Yes. that dust come from? 15 How frequently during the two MR. SMITH: Same objections. 16 the Champlain would you -- Lake THE WITNESS: Inside the ain would you work on those scopes? 17 equipment as it was being opened or, 18 MS. McCORMACK: Objection to 19 removed. BY MR. PRESENT: 20 THE WITNESS: The -- the And when -- when that would 21 tenance that was done on the occur, would that have any effect on you? 22 ment in the radar room, ECM room, MS. McCORMACK: Objection; 23 sey room, adjacent utility room, was a leading; foundation; calls for expert 24 duled per piece of equipment just Page 41 Page 39 1 testimony. 2

3

4

5

6

7

8

10

11

12

13

14

15

16

17

1,8

19

20

21

22

23

24

t every 30 days. But when you had 5 pieces of equipment, 30 pieces of pment, there was basic maintenance on one or more of the equipment on a basis or every other day.

At sea, they were done less arency -- less frequent than in port. so that every day something was g done somewhere in those three as.

MR. PRESENT: Okay.

MR. SMITH: Respectfully move rike the nonresponsive portions.

THE WITNESS: I'm sorry.

. PRESENT:

That's all right.

With respect to the -- the ent that you associate with the name on, when you would work on that ent, the work that you did on that tent, did that affect the atmosphere in y?

MS. McCORMACK: Objection; leading.

MR. SMITH: Same objections.
THE WITNESS: Yes. Inhaling
any dust or debris has an effect on you,
coughs. And you wave your hand to get it
away from you.

BY MR. PRESENT:

Q. Okay. And with respect to that, was that a situation that occurred each and every time you worked on a piece of equipment that you associated with the name Raytheon or a product that you associated with the name Raytheon?

MS. McCORMACK: Same objections.

MR. SMITH: Same objections, plus overbroad plus leading.

THE WITNESS: More times than not if we had to work on a piece of machinery the next day to change a part that we didn't have, it wouldn't -- we already cleaned a piece of machinery, the very next day it wouldn't happen. If the machinery sat for a week or two or three



Page 44 Page 42 equipment on -- on something else, you weeks or four weeks, all the dust that 1 just work on it. You're not paying as was in there came -- came out. 2 much attention on names or -- or, you 3 Y MR. PRESENT: know, just, you know, the circuitry may With respect to this dust, do you 4 change a little bit and you -- but that's ve knowledge now about the dust that you 5 ere exposed to in this activity was your what you're doing. 6 MR. SMITH: Respectfully move bestos -- was made of asbestos or --7 to strike the nonresponsive portions. 8 A. Now I do. BY MR. PRESENT: 9 MR. SMITH: Objection; Okay. With respect to the work 10 overbroad. that you associate with the name Raytheon, 11 MR. PRESENT: were you in one of the three rooms that you Q. And did you see any kind of 12 talked about, the radar room, the pomsey rning on any on the Raytheon equipment 13 room, the utility room, were you in those ling you that -- that this dust could 14 rooms when other individuals worked on things er cause lung cancer or make you sick? 15 that you associated with the name Raytheon as 16 No. The only -well? 17 MS. McCORMACK: Objection; MS. McCORMACK: Objection to 18 leading. 19 form. MR. SMITH: Overbroad. MR. SMITH: Vague; ambiguous; 20 THE WITNESS: -- the only warnings that were on any equipment were overbroad. 21 THE WITNESS: When we were at 22 shock warnings, electrical shock sea, we were on port and starboard 23 warnings. shifts. And that meant four hours on and 2.4 MR. PRESENT: Page 43 four hours off. So at least 12 hours of 1 Okay. With respect to this -the day I was in one, if not all of these 2 ese scopes that you associate with the name rooms, including lookout stations through 3 lytheon, would you have encountered the same my watches. 4 me and engaged in the same activity when BY MR. PRESENT: 5 ou were on the Independence as well? Q. Okay. And did -- with respect to 6 MS. McCORMACK: Objection; your time at sea, would you -- can you tell 7 leading; lack of foundation. us where the Lake Champlain went to during 8 MR. SMITH: Vague; ambiguous; your career on the ship? 9 overbroad. We did a North Atlantic A. THE WITNESS: As -- as I stated 10 anti-submarine warfare exercise. Then we 11 earlier, I don't know if it's part of did -- went -- went to the Mediterranean, and this, the Lake Champlain and the 12 we also were on site for the recovery of Independence were two different styles of 13 Gemini III and Gemini V. aircraft carrier, but they were aircraft 14 Okay. With respect to the -- the carrier. The equipment on the Lake 15 Champlain was very similar, if not the Raytheon-associated product, did you 16 actually -- when you were not maintaining it, same on the lake -- on the Independence. 17 The Independence may -- had some newer did you actually use that equipment also 18 versions of -- of radarscopes and while you were on the ship? 19 equipment than on the Lake Champlain. MS. McCORMACK: Objection to 20 And when you're working on a piece of form; leading. 21 machinery that you've seen, I'm -- I'm THE WITNESS: The -saying every day for a couple years, when 22

23

24

BY MR. PRESENT:

O.

As a -- as a radar man?

you see that same or similar piece of

5

7

8

9

13

14

15

16

20

21

1

7

8

9

10

11

12

13

14

15

16

17

24

Page 49

MR. SMITH: Objection; vague; ambiguous.

THE WITNESS: As a radar man you were operating the equipment that contained the Raytheon, yes.

Y MR. PRESENT:

Q. All right. You also mentioned e name Westinghouse. Did you work on juipment that was labeled Westinghouse?

A Yes.

A. Yes.
Q. And with respect to your work on
e Westinghouse equipment, can you explain
hat kind of work you would do and how
equently that would happen?

A. It was -- the equipment restinghouse was maintained similar to all e other equipment. We worked the same eaning schedule, the same repair schedule, e same down time on every piece of uipment that we worked with.

Q. Okay. And what -- can you scribe this Westinghouse equipment that you brked on, what -- where was it and what did look like?

the equipment labeled Westinghouse, would you
 have to take any of the equipment apart?
 MR. SMITH: Objection; leading.

MR. SMITH: Objection; leading.
THE WITNESS: You're taking --

you're dissembling -- you're -- you're taking apart the units to work on the insides of them, yes.

MR. SMITH: Ambiguous.

BY MR. PRESENT:

10 Q. Okay. And when you would do 11 that, would that process on the Lake 12 Champlain affect the atmosphere in any way?

A. Yes.

MR. SMITH: Objection; vague; ambiguous; overbroad; calls for expert opinion; lack of foundation; speculation.

17 BY MR. PRESENT:

Q. And how would it affect the atmosphere?

MR. SMITH: Same.

THE WITNESS: Dust, debris.

22 **BY MR. PRESENT:**

Q. And would that have any effect on you?

Page 47

MR. SMITH: Objection; compound.

THE WITNESS: I believe -- I believe it was the -- a component of the scopes.

Y MR. PRESENT:

Q. Okay. And where was it located?

A. On every scope.

Q. Okay. And how often would you be orking on Westinghouse equipment?

A. You're sitting in front of the copes during your 12-hour shifts, whichever cope, your -- whatever scope needed to be naintenanced was shut down and it was worked on. It was -- they -- you couldn't move hem. So you would shut down, and you would work on that scope, and the scope -- and I'm just using a number. I'm not saying exactly this is the way it was, scope one, two, or three, they'd shut down scope one; you'd work on one. They'd energize scope two or three to -- that would take the place of the scope that was working on

Okay. And when you would work on

A. Myself and anyone else that was

2 in the -- the immediate vicinity.3 MR. SMITH: Same.

4 BY MR. PRESENT:

Q. What sort of effect would it have on you?

MR. SMITH: Same.

THE WITNESS: You're working on something, a puff of smoke comes out, you're there, you're trying to wave it around. You hold your breath and just try to wave the debris or the dust away from you.

BY MR. PRESENT:

Q. Okay. And did this happen every time you worked on Westinghouse equipment?

MR. SMITH: Same; also

18 overbroad.

19 MR. KATTNER: Objection.

THE WITNESS: When you opened the components up, yes. When you were working on the face, no.

23 BY MR. PRESENT:

Q. Okay. And -- and how frequently

EXHIBIT C

Document Management

Page 1

IN THE UNITED STATES DISTRICT COURT FOR THE EASTERN DISTRICT OF PENNSYLVANIA

IN RE: ASBESTOS PRODUCTS

LIABILITY LITIGATION (No. VI)

CALVIN DAMON and ROSANNE DAMON, h/w,.

Plaintiffs,

Vs.

AIREON MANUFACTURING CORP., et al.

Defendants.

Transcript of the continued videotape deposition of CALVIN DAMON, called for Oral Examination in the above-entitled action, said deposition being taken by and before MICHAEL R. MONAHAN, a Registered Professional Reporter and Notary Public, held at the Best Western Inn at Hunt's Landing, 120 Routes 6 & 209, Matamoras, Pennsylvania, on November 18th, 2014, commencing at 10:30 in the morning.

MAGNA LEGAL SERVICES
Seven Penn Center
1635 Market Street
8th Floor
Philadelphia, PA 19103
(215) 207-9460



2

3

4

5

6

7

8

9

10

11

12

13

14

15

16

17

18

19

20

21

22

23

24

25

1

2

3

4

5

6

7

8

9

10

11

12

13

14

15

16

19

20

21

22

23

24

25

A The ECM room was off the radar room.
There was probably, it was all electronic equipment,
I'm going to say a bank of probably six.
O Was there any major difference between
1.0-0

the two ships?

3

4

5

6

8

9

10

11

12

13

14

15

1.6

17

18

19

20

21

22

23

24

25

1

2

3

4.

5

6

7.

8

9

10

11

12

13

14

15

16

17

18

19

21

22

23

24

25

MR. SMITH: Objection, vague and --MR. PAUL: Excuse me, let me finish my question. I know you want to, I know that you enjoy objecting, but you have to wait until I ask the question first.

MR. SMITH: I enjoy doing my job. There was a pause and I thought you were, so I apologize.

MR. PAUL: I'm so happy for you.

Again my question was, was there any difference, you talked about how many there were. radar scopes, and my question was, was it the same number of radar scopes on the two ships or was there a difference in the number of radar scopes between the two ships.

MR. SMITH: Objection --

There was probably more on the Independence because it was a larger ship and a newer ship.

Q If we said, you said let's see, eight,

I have one more question about tubes and radar scopes, which it occurs to me we didn't ask. How many tubes are there in each radar scope?

MR. SMITH: Objection, vague and ambiguous, or do they vary? Leading.

I would say there's, between junction boxes which are a form of circuitry, probably around, probably about 15 different tubes and other junction boxes.

0 In each one?

A Yes.

Q Does it make a difference, are there a different number of tubes in each radar scope, whether it was the Lake Champlain or the Independence?

MR. SMITH: Objection, leading.

There aren't, there is not. There are different scopes but there are not different tubes.

MR. PAUL: I want to move on to some other areas that I want to talk about. Within the last couple of weeks I provided to defense counsel certain documents which I want to go over. I'm going to mark them as 1, Plaintiff's 1. I'm going to identify each page however for the record, which should be

Page 111

if I counted right from what you said, about 16 radar scopes on the Lake Champlain. How many were there on the Independence?

MR. SMITH: The same objection.

MS. BRIDDELL: Speculation.

Α Probably a half a dozen more.

You mentioned this palmsy, did the palmsy brush, did it use the term P-O-M-S-E-E, does that sound familiar, do you know what that word means?

MR. SMITH The same objection.

Α

Q The dust that you described, did that happen every time you removed a tube?

MR. SMITH: Objection, vague, ambiguous, misstates testimony.

MS. BRIDDELL: Asked and answered.

Every time you opened the machine, yes. MR. PAUL: Okay.

THE VIDEOGRAPHER: The time is now 2:02

P.M. We're off the record.

(A brief recess was taken.)

THE VIDEOGRAPHER: Time is now 2:10 p.m.

We're on the record.

BY MR. PAUL:

Page 113

relatively clear and then I'll give it to the court reporter at the end.

The first --

MS. REICHELSON: I just want to place an objection on the record, to the extent that any questions are beyond the scope of the testimony today.

MR. SMITH: I join.

MS. REICHELSON: I move to strike any testimony that arises out of these questions.

MR. SMITH: Join.

Sir, earlier in this deposition you testified that I had given you some documents to look at?

Α

Q Last night. Are these those documents?

17 Α Without looking at every one, I would 18 say yes.

> MR. SMITH: Objection, leading, and I believe it also misstates testimony to the extent that plaintiff has, Mr. Damon at his last deposition I believe said they he looked at records before his first deposition without Mr. Present --

MR. PAUL: That's right.

MR SMITH: I didn't know that was you. MR PAUL. I'm not Mr. Present. MR SMITH: Yes, that's right. MR. PAUL. These are the documents that he looked at last night. MR SMITH: Last night. MR PAUL: That's right, that's what we're talking about. MR SMITH: Okay. MR. PAUL: I'm not going over anything that we went over the last time. BY MR. PAUL: Q The first document is called Instruction Book for Radar Set AN/SPN-12(XN-1) from the Raytheon Manufacturing Company. And I will represent, although it's clear from the documents, that these are from the National Archives. You talked about Raytheon in the last deposition, as I recall? A Yes. Q When you looked through these documents was there anything, and I'll stick to the first, that particular one first. Was there anything about this document, that is, the one for the AN/SPN-12 that looked familiar to you, sir?

	Page 116
c	lear, you talked about ECM equipment the last time.
Į	s this the kind of thing you were talking about or
i	s it a different piece of equipment?
	MR. SMITH: Objection, leading.
	A That's part of the bank of equipment
t	hat I mentioned.
	Q Did you ever have to open this
I	particular piece of equipment up?
	MR. SMITH: Objection, it lacks
	foundation, it calls for speculation, assumes
	facts not in evidence.
	MS. McCORMACK: Objection.
	MR. PAUL: How can it lack foundation if
	he personally did something, counsel?
	MR. SMITH: He doesn't even know if he
	washed on this piece of equipment

MR. SMITH: He doesn't even know if he worked on this piece of equipment.

MS. McCORMACK: Objection.

MR. PAUL: I just want to make sure I understand the nature of your objection. Go ahead.

A Basically every piece of equipment in the ECM room, and basically every piece of equipment in the CIC, forward CON, the CON, at one point in my naval career I worked on just about every piece of equipment there.

Page 115

MS, McCORMACK: Objection to the form.
MR. SMITH: Objection, leading.
A I'm looking through it, and again I'm a
visual individual and I saw a piece of equipment
that looked familiar.
Q And that's the document that's marked
Section 3, Paragraph 4, Confidential Navships
91778(A). What is this piece of equipment, sir?
A I can read what it says, it says it's a
gyro compass. It's part of the IFF equipment or the
ECM equipment.
Q Did you personally work on this
particular equipment?
MS. McCORMACK: Objection, asked and
answered.
MR. SMITH: Leading.
A It may not be this exact piece of
equipment, but something very similar to this.
Q Tell us about the piece of equipment
that you worked on, is it something that you told us
about before or is this a different piece of
equipment?
A This is one of the pieces of equipment

that would be in the ECM room.

Q Is this the kind of, just so that we're

Page 117

1	MR. SMITH: Objection, move to strike
2	portions lacking foundation, based on
3	speculation and non-responsive.
4	MR. PAUL: Let's agree that you have that
5	objection to every question, so you don't have
6	to keep saying it each time.
7	MR. SMITH: I'm not sure that there's that
8	basis in law for that.
9	MR. PAUL: Alright.
10	Q What did you do with the piece of
11	equipment did you know whether it was Raytheon
12	that you worked on specifically, because you
13	mentioned Raytheon before. Did you work on a
14	Raytheon piece of equipment that looks like what's
15	pictured in Radar Set AN/SPN-12?
16	A Yes.
17	MS. McCORMACK: Objection.
18	MR. SMITH: Assumes facts not in evidence.
19	Q Tell us what you did with that piece of
20	equipment?
21	(Discussion off the record)
2.2	Q Do you understand the question?

Yes, I do.

Okay.

Q

A

I worked on, I'm saying 99 percent

Page 114 1 Sometimes if you didn't have an 2 sistant, you know, there wasn't -- it was 3 ou and an E-5, the machine broke down, you 4 ed to open it up and take it apart. 5 6 Understood. Could you provide your best 7 timate of what percentage of time as an E-4 8 ou would have done, quote, unquote, E-3 9 uties, such as dusting and all those duties 10 at you talked about earlier today as an 11

-3, working with the radar? A. (No response.)

MR. PRESENT: Do you understand the question, Mr. Damon?

THE WITNESS: I'm trying to -to understand and define your -- your question to me.

Y MR. SMITH: O. Let me restate it. I'm just ying to figure out what percentage of time when you were an E-4 you were -- spent ctually -- and this is with respect to work

him.

THE WITNESS: If, when I open the machine -- and we were around the machines every four; four hours on, four hours off. If something was leftover from the shift before, you had to take it over. When you're out at sea for 30 and 45 days at a time, you're constantly in front of these machines. You are opening. You're trying to get them to breathe. You're trying to work on the down machine. When the down machine is off, you -- you go in another room and shut down all the power.

But you're not always a grunt. You know, just because you have a rank doesn't mean -- in my case, it didn't mean that I was going to let somebody else do all the dirty work. I had to pitch in. So I - I am not that type of person. That's the reason I would have never made a good officer.

But I was -- I'd have to say 80 percent of the time I was involved in

Page 115

12

13

14

15

16

17

18

19

20

21

22

23

24

1

2

3

4

5

6

7

8

9

10

11

12

13

14

15

16

17

18

19

20

21

22

23

Right.

n radar equipment.

I'm trying to figure out what bercentage of your time you would have been actually repairing equipment versus doing cleanup of the work?

Every time you repaired the equipment, the equipment had to be cleaned to -- to properly work on it. Sometimes there was somebody there to help, and other times there wasn't. I'd have to say 50/50, if that's a good answer for you.

Q. If that's your best estimate, that's a good answer.

A. I -- I would have to say it -probably -- it's not 50/50. I don't know how to answer the question --

Q. Well --

exactly the way you're asking

O. Okay. Let me ask --And I don't mean to be rude, okay.

MR. PRESENT: Please don't interrupt him. Please don't interrupt

Page 117

Page 116

all parts of it. More often, I would say, when I was an E-3, I was doing more of the dirty work on a consistent basis. But as -- when I became an E-4, I was still doing all the work beside my guys. So I wasn't -- I was -- didn't designate the same crap jobs that somebody gave to me.

I'd have to say 80 percent, if you're looking for a number, of the time I was involved with the machinery, opening it and closing it; actually vacuuming it, if there was a vacuum there or a brush there that somebody didn't get, I would have to do it. You're working on stuff that gets dusty real quick.

MR. SMITH: Sure.

THE WITNESS: And you have to keep it clean.

MR. SMITH: Okay. And just --I have to make statements for the record. Respectfully move to strike non-responsive portions and portions

Page 121

because there's probably one piece of machinery that I didn't work on that wasn't in my bailiwick of what I did. I've taken apart every one of these things.

MR, SMITH: The same objection.

Q What happened when you took apart the piece that looked like this piece?

A You try to remove the front cover first, and then, some of the stuff was on a rack so some of the stuff had handles you pull out, some you didn't. They were on the end because you could work on them. When you're taking apart the equipment it was de-energized, that was the best time to take it apart and you would, do you want me to show you?

MR. SMITH: The same motion.

Yes, go ahead.

A We had different vent areas that were for aeration coming through. The back of the area and the side of the area where the heavily, where mostly dust would accumulate because it didn't have the proper flow, you would take it apart, you would try to undo the front screen and then that would expose certain elements. Some of the units you would be able to pull out the instruments from once you've removed the cover. Some you had to take off the sides, some you had to take off the backs. I

would intensify or brighten or raise the meter up based on what's happening in the air.

Q This document references cables. Do you know what that is, what the cable is?

MR. SMITH: Objection, vague, ambiguous. Leading, over broad.

A Cables?

Q Cables, yes.

A Your items were powered and one would attach to the other and transfer information.

Q What was the condition of this piece of equipment when you opened it up?

MR. SMITH: Leading, vague and ambiguous.
MS. McCORMACK: Objection.

A The condition? They were there 10, 15 years before I got there, so some of them were chipped, some of them were repainted. Some were, when I opened up a piece of equipment, I wasn't looking at the age of the equipment, I was looking in and I would pull out a schematic and see what needed to be replaced and tried to find it and trace it.

MR. SMITH: Objection, move to strike non-responsive portions.

Q What was the condition when this radar

Page 119

don't know if I answered the question, but that's how you did it.

MR. SMITH: Move to strike on the same grounds.

Q When you talk about elements, would you explain to the jury what that means, what you mean by an element?

MR. SMITH: Leading.

A Element, you had different tubes, you had different wires, you had different coils that connected your wiring. The term element was different parts of the machinery, that's how I'm using the word element.

Q Can you describe the product, what was inside this product that looked like this Raytheon piece of equipment?

MR. SMITH: Objection, vague and ambiguous and broad

MS. McCORMACK: Objection.

Q Go ahead.

A You had --

MR. SMITH: Leading.

A - gauges that indicated polarity,

direction. You had gauges which indicated voltage.
You had, there was your different gain switches that

set was opened up?

A The condition --

MR. SMITH: The same objections.

A The condition? Whenever you opened these things up, the condition was poor because you wouldn't have had to open them up if they weren't, if they were prior services. When you open these things up, they were running 24/7 until the maintenance and they ran every minute of every day so they heat up and dust, that's the maintenance on it. So they're dusty, dirty, sometimes they smelled of burning stuff when you opened them.

MR. SMITH: Move to strike unresponsive portions.

Q Was it your job to clean this box out?
MR. SMITH: Objection, leading, over

A When you opened the unit you had to elean the unit, you had to dust the unit, you had to vacate any other debris that was in the area that you were working so that the dust would not conduct a different flow of the units.

MR. SMITH: Move to strike on the same grounds.

Q There are parts that are mentioned in

	Page 122		Page 124
	That's a	1	unit, they were not tight compacted, they were
1	this document called terminal boards. That's a	2	puffy.
2	terminal board?	3	Q There's a reference to something called
3	MR. SMITH: Leading: A A terminal board is where you have a	4	an oil seal. Do you know what that is?
4	plate where your condenser is, your relays are, and	5	MR. SMITH: The same objection.
5	a terminal board, we mentioned a mother board	6	A That might have been on one of the
6	before, your terminal board was contact to where	7	scopes, I'm not sure.
7	before, your terminal board was contact to	8	Q It's identified, again it's still the
8	your base of your tubes were. Q Do you know what the composition of the	9	same product, it's identified as "weather seal in
9		10	the reflector bracket adapter." Do you know what
10	board was? MR. SMITH: Calls for speculation, lacks	11	those terms mean?
11		12	MR. SMITH: The same objection.
12	foundation. MS. McCORMACK: Objection.	13	MS. McCORMACK: Objection.
13		14	A I know what they mean but I can't place
14	A 'No, I don't. Q Do you know what a toggle switch is?	15	them on the machinery.
15		16	Q The next one is an Instruction Book for
16	A Yes.	17	Radar Set AN/SPN-8(XN-1) from the Bendix Radio
17	MR. SMITH: Leading.	18	Company.
18	Q What's a toggle switch? A Toggle switches were all used on a lot	19	MS. REICHELSON: Note my objection.
19		20	Q Take a look at this again. Having
20	of the, they were used on all the machinery, on all	21	looked at this, is there anything in this document
21	the scopes and all the different varieties of ECM	22	that looks familiar to you?
22	equipment. They were turning the unit on, turning	23	MR. SMITH: Leading.
23	it off. Basically that's what they did.	24	A Just some of the terminologies and names
24	Q There's a reference in this document to	25	of stuff that I haven't looked at in 50 years.
25	what's known as retainer packing and sealing	23	of start that I haven't looked at hi 30 years.
	Page 123		Page 125
1	packing. Do you know what those things are?	1	MS. REICHELSON: Move to strike.
2	MR. SMITH: Objection, vague and ambiguous	2	Q Which of those look familiar to you?
3	over broad, leading.	3	Let me ask you that.
4	Q Do you know what those are?	4	MR. SMITH: Leading.
5	A I know what the word packing is, yes.	5	A Without my reading glasses on, I
6	Q Tell us what packing is?		
100000000000000000000000000000000000000		I h	remember reading it last night. Some of the
7		6 7	remember reading it last night. Some of the
1500 1100	A When you're puting a switch in	7	terminology about the switches and how to operate
7 8 9	A When you're puting a switch in MR. SMITH: Objection.	7 8	terminology about the switches and how to operate them, that's basically it.
8	A When you're puting a switch in MR. SMITH: Objection. A there is an element that has to	7 8 9	terminology about the switches and how to operate them, that's basically it. Q You had mentioned, you talked about
8 9	A When you're puting a switch in MR. SMITH: Objection. A there is an element that has to protect your contacts and that's what we had.	7 8 9 10	terminology about the switches and how to operate them, that's basically it. Q You had mentioned, you talked about Bendix at the last deposition, do you recall that?
8 9 10 11	A When you're puting a switch in MR. SMITH: Objection. A there is an element that has to protect your contacts and that's what we had. Q Do you recall ever handling this packing	7 8 9 10 11	terminology about the switches and how to operate them, that's basically it. Q You had mentioned, you talked about Bendix at the last deposition, do you recall that? A Yes.
8 9 10	A When you're puting a switch in MR. SMITH: Objection. A there is an element that has to protect your contacts and that's what we had. Q Do you recall ever handling this packing when you opened up this particular piece of	7 8 9 10 11 12	terminology about the switches and how to operate them, that's basically it. Q You had mentioned, you talked about Bendix at the last deposition, do you recall that? A Yes. Q Is this the Bendix product, if you
8 9 10 11 12	A When you're puting a switch in MR. SMITH: Objection. A there is an element that has to protect your contacts and that's what we had. Q Do you recall ever handling this packing when you opened up this particular piece of equipment that we're talking about.	7 8 9 10 11 12 13	terminology about the switches and how to operate them, that's basically it. Q You had mentioned, you talked about Bendix at the last deposition, do you recall that? A Yes. Q Is this the Bendix product, if you recall, or is it a different Bendix product.
8 9 10 11 12 13	A When you're puting a switch in MR. SMITH: Objection. A there is an element that has to protect your contacts and that's what we had. Q Do you recall ever handling this packing when you opened up this particular piece of equipment that we're talking about. MR. SMITH: Objection, leading, vague,	7 8 9 10 11 12 13 14	terminology about the switches and how to operate them, that's basically it. Q You had mentioned, you talked about Bendix at the last deposition, do you recall that? A Yes. Q Is this the Bendix product, if you recall, or is it a different Bendix product. MS. REICHELSON: Objection, asked and
8 9 10 11 12 13 14	A When you're puting a switch in MR. SMITH: Objection. 'A there is an element that has to protect your contacts and that's what we had. Q Do you recall ever handling this packing when you opened up this particular piece of equipment that we're talking about. MR. SMITH: Objection, leading, vague, misleading.	7 8 9 10 11 12 13 14 15	terminology about the switches and how to operate them, that's basically it. Q You had mentioned, you talked about Bendix at the last deposition, do you recall that? A Yes. Q Is this the Bendix product, if you recall, or is it a different Bendix product. MS. REICHELSON: Objection, asked and answered, lack of foundation, and beyond the
8 9 10 11 12 13 14 15	A When you're puting a switch in MR. SMITH: Objection. A there is an element that has to protect your contacts and that's what we had. Q Do you recall ever handling this packing when you opened up this particular piece of equipment that we're talking about. MR. SMITH: Objection, leading, vague, misleading. MS. McCORMACK: Objection.	7 8 9 10 11 12 13 14 15 16	terminology about the switches and how to operate them, that's basically it. Q You had mentioned, you talked about Bendix at the last deposition, do you recall that? A Yes. Q Is this the Bendix product, if you recall, or is it a different Bendix product. MS. REICHELSON: Objection, asked and answered, lack of foundation, and beyond the scope again.
8 9 10 11 12 13 14 15 16	A When you're puting a switch in MR. SMITH: Objection. A there is an element that has to protect your contacts and that's what we had. Q Do you recall ever handling this packing when you opened up this particular piece of equipment that we're talking about. MR. SMITH: Objection, leading, vague, misleading. MS. McCORMACK: Objection. A You could not help touching it because	7 8 9 10 11 12 13 14 15 16 17	terminology about the switches and how to operate them, that's basically it. Q You had mentioned, you talked about Bendix at the last deposition, do you recall that? A Yes. Q Is this the Bendix product, if you recall, or is it a different Bendix product. MS. REICHELSON: Objection, asked and answered, lack of foundation, and beyond the scope again. MR. SMITH: Leading.
8 9 10 11 12 13 14 15 16 17	A When you're puting a switch in MR. SMITH: Objection. A there is an element that has to protect your contacts and that's what we had. Q Do you recall ever handling this packing when you opened up this particular piece of equipment that we're talking about. MR. SMITH: Objection, leading, vague, misleading. MS. McCORMACK: Objection.	7 8 9 10 11 12 13 14 15 16 17	terminology about the switches and how to operate them, that's basically it. Q You had mentioned, you talked about Bendix at the last deposition, do you recall that? A Yes. Q Is this the Bendix product, if you recall, or is it a different Bendix product. MS. REICHELSON: Objection, asked and answered, lack of foundation, and beyond the scope again. MR. SMITH: Leading. MS. McCORMACK: Objection.
8 9 10 11 12 13 14 15 16 17 18	A When you're puting a switch in MR. SMITH: Objection. A there is an element that has to protect your contacts and that's what we had. Q Do you recall ever handling this packing when you opened up this particular piece of equipment that we're talking about. MR. SMITH: Objection, leading, vague, misleading. MS. McCORMACK: Objection. A You could not help touching it because you were removing the switches and replacing the	7 8 9 10 11 12 13 14 15 16 17	terminology about the switches and how to operate them, that's basically it. Q You had mentioned, you talked about Bendix at the last deposition, do you recall that? A Yes. Q Is this the Bendix product, if you recall, or is it a different Bendix product. MS. REICHELSON: Objection, asked and answered, lack of foundation, and beyond the scope again. MR. SMITH: Leading.

22

23

24

25

about the last time?

and over again.

MR. SMITH: Leading.

You can answer.

when you opened up the equipment, do you recall?

serviced, they were frayed more from the heat of the

MR. SMITH: The same objection.

MS. McCORMACK: Objection.

A Depending on the last time it was

22

23

24

25

MS. REICHELSON: Asked and answered over

EXHIBIT D

NAVSHIPS 91778(A)

CONFIDENTIAL
SECURITY INFORMATION
(Non-Registered)

INSTRUCTION BOOK

for

RADAR SET AN/SPN-12(XN-1)



RAYTHEON MANUFACTURING COMPANY WALTHAM, MASSACHUSETTS

BUREAU OF SHIPS

DEPARTMENT OF THE NAVY

Contract; NObsr-57066

Approved by BuShips: 16 October 1952

DECLASSIFIED
Authority NND974382

AN/SPN-12(XN-1) FRONT MATTER

CONFIDENTIAL NAVSHIPS 91778(A)

TABLE OF CONTENTS

	SECTION 1-GENERAL DESCRIPTION		Paragraph	Page
Para	sgraph	Page	(3) Servo Amplifier	2-16
	Purpose	1-1	(4) Follow-up Potentiometer	2-17
	a. Instruction Book		s. Synchro System	2-17
	b. Equipment		(1) General	2-17
2	Basic Principles of Operation		(2) Relative Speed	2-18
-de e	a. General		(3) Wind Velocity Synchro System	2-18
			(4) 5DG Synchro	2-18
	b. Relative Air Speed		(5) Gyro Compass Synchro Amplifier	
	c. True Air Speed		Mark 3 Mod. 1	2-18
3.	Description and Function of Units		(6) True Air Speed Indicators	2-18
	4. General		(7) Graphic Presentation of Computer	
	b. Receiver-Transmitter, Radar RT-249	4.1	Data	2-18
	(XN-1)/SPN-12		(s) General	
	c. Power Supply PP-753 (XN-1)/SPN-12	1-3	(b) Recorder System	
	d. Computer, Navigational		f. Good-Bad Circuit	
	CP-110(XN-1)/SPN-12		(1) General	
	e. Cabinet CY-1103 (XN-1)/SPN-12		(2) Circuit Details	
	f. Remote True Air Speed Indicators	1-5	g. Audio Circuit	
-	g. Gyro Compass Synchro Amplifier		(1) General	
	Mark 3 Mod. 1	1-5	(2) Circuit Details	
4.	Location of Components	1-5	b. Tracking Control Circuit	
			(1) General	
	SECTION 2-THEORY OF OPERATION	4	(2) Remote Operation	
3	SECTION 2—INECKT OF OTERATION	•	(3) Local Operation	
1,	General	2-1	Low Voltage Power Supply	
2.	Basic Principles of CW Radar	2-1	j. Primary Power Distribution	
	a. Introduction		& Test Equipment	
	b. Doppler Effect	2-1	(1) General	
3	System Function		(2) Frequency Standard	
	Power Supply PP-753 (XN-1)/SPN-12		(3) Frequency Multiplier	
70	a. General		(4) Pocketscope	
			(5) AC Vacuum Tube Voltmeter	
	b. Magnetron Filament Supply		()) AC vacuum Tube volumeter	2-4)
15	c. High Voltage Power Supply		SECTION 3—INSTALLATION	
	d. Magnetron Current Regulator	2-5		
5.	Receiver-Transmitter, Radar		1. Unpacking Instructions	
	RT-249 (XN-1)/SPN-12		2. Preliminary Inspection	
	s. General		3. Installation	3-I
,	b. Magnetron Filament Filter		a. Installation Requirements	3-1
	c, Magnetron		(1) Location of Units	
	d. RF System	2-7	(2) Precautions	3-1
	e. Crystal Detector	2-10	(3) Receiver-Transmitter, Radar	
	f. Video Amplifier	2-10	RT-249(XN-1)/SPN-12	3-3
6	. Computer, Navigational		(a) Mounting	3-3
	CP-110(XN-1)/SPN-12	2-13	(b) Location	
	a. General	2-13	(c) Clearance	3-3
	b. Filter Selector Network		(d) Cabling	3-3
	c, Limiter Circuit		(4) Computer, Navigational	
	d. Servo System		CP-110(XN-1)/SPN-12	3-3
	(1) Counter Circuit		(a) General	3-3
	(2) Balanced Modulator		(b) Mounting	3-3
	71 70			-

CONFIDENTIAL

DECLASSIFIED

INFORMATION

Authority NND974382

ORIGINAL

CONFIDENTIAL NAVSHIPS 91778(A)

AN/SPN-12(XN-1) FRONT MATTER

TABLE OF CONTENTS—Continued

Paragraph	Page	SECTION 4-OPERATION
(c) Location		Paragranb Page
(d) Clearance		1. Introduction 4-1
(e) Cabling		2. Capabilities, Limitations and Precautions 4-1
(f) Positioning		
(g) Bonding		a. Capabilities
(b) Suggested Arrangement		
(5) Power Supply		
PP-753 (KN-1)/SPN-12	3-3	(-, -,
(6) Cabinet CY-1103 (XN-1)/SPN-12		(2) Space Heaters 4-1
(7) Speed Indicators		(3) Blowers 4-1
ID-323 (XN-1)/SPN-12 and		(4) Magnetron 4-1
ID-324(XN-1)/SPN-12	3-9	(5) Tracking Control Switch 4-1
(a) General		(6) Emergency Stop 4-2
(b) Mounting		3. Starting Procedure 4-2
I. Indicator, Speed	. , , , ,	a. General 4-2
ID-323 (XN-1)/SPN-12	2 3-9	b. Applying Power 4-3
260 126	. ,-,	c. Adjustment of Good-Bad Circuit 4-8
2. Indicator, Speed ID-324(XN-1)/SPN-1:	2 3-9	d. Starting Recorder Ink Flow 4-13
		e. Calibration Procedure4-13
(c) Cabling		(1) Relative Speed 4-14
(d) Bonding		(2) True Air Speed 4-16
(8) Gyro Compass Synchro Amplific		4. Standby Condition 4-16
Mark 3 Mod. 1		5. Operation
4. Protection of Exposed Units	3-15	a. General 4-16
5. Cabling	. 3-15	b. Computer Operator's Checks and Ad-
a. General Instructions	. 3-15	justments 4-17
b. Cables	. 3-15	c. Tracking Operator's Procedure 4-17
c. Cable Runs		(1) Starting Adjustments 4-17
CO. O. 1922		(2) Operational Procedure 4-17
d. Cable Entrances		d. Coordination of Operators 4-18
e. Cable Protection		e. Reading Speed Indicators 4-18
f. Cable Supports	3-16	f. Turning Off the Radar Set 4-18
g. Terminal Tubes	3-16	6. Summary of Operation 4-18
(1) General	. 3-16	s. Blown Fuse Indicators 4-18
(2) Packing Procedure for Multicon		b. Indicating Lights 4-19
ductor Cables		c. Controls For Use of Technical Person-
(a) Special Preparation		nel Only
(b) Attachment to Unit or Bulk		d. Cabinet CY-1103 (KN-1)/SPN-12 4-19
head		e. Test Procedures 4-19
(c) Insertion of Cable		100 2000000000 NASCONSTITUTE D
(d) Retainer Packing		SECTION 5-OPERATOR'S MAINTENANCE
(e) Sealing Packing		1 Division Malacanana
(f) Final Retainer Packing		1. Routine Maintenance 5-0
(g) Gland Nut		a. General 5-0
(b) Plastic Sealer		b. Replacement of Recorder Chart 5-3
6. Tubing of Equipment		c. Refilling Recorder Ink Supply 5-3
		2. Emergency Maintenance 5-3
7. Check-up Following Installation		a. General 5-3
a. Preliminary Inspection		b. Trouble Shooting Procedure 5-3
b. Calibration		c. Interlock Switch 5-11
8. Elimination of Interference	3-18	d. Fuses 5-11

CONFIDENTIAL NAVSHIPS 91778(A)

Contents

TABLE OF CONTENTS—Continued

Para	grapb	Page	Paragraph	Page
	e. Checking and Replacing Tubes	5-11	5. Unit Trouble Shooting	7-8
	(1) Clasp Type Clamp	5-12	ø. General	7-8
	(2) Miniature Tubes	5-12	b. Use of Unit Trouble Shooting Infor-	
	(3) Subminiature Tubes	5-12	mation	7-8
	(4) Magnetron	5-12	c. Computer, Navigational	
	WANTED TO A CONTRACT OF A CONT		CP-110(XN-1)/SPN-12	7-8
5	ECTION 6-PREVENTIVE MAINTENANC	E	(1) Frequency Standard	
1.	General	6-1	(2) Frequency Multiplier	
•••	a. Importance of Preventive Maintenance	6-1	(3) Filter Chassis	
	b. Lubrication	6-3	(4) Limiter	
	c. Contacts	6-3	(5) Servo Amplifier	
4		6-6	(6) Low Voltage Power Supply	
2.	Cleaning	- 1	d. Power Supply PP-753 (XN-1)/SPN-12	
	a. General		(1) General	
	b. Windows and Optical Gun Sight		(2) High Voltage Power Supply	
	(1) Glass	6-6	(3) Magnetron Filament Current	, -23
	(2) Plastic Windows	6-6	Supply	7.41
	(3) Optical Gun Sight	6-6	(4) Magnetron Current Regulator	
	c. Air Cleaners	6-6	s. Receiver-Transmitter, Radar	/-/1
	d. High-Voltage Insulators	6-6	RT-249(XN-1)/SFN-12	7 11
	s. Tubes	6-6	A 10 A	
	f. Ferrule Resistors and Fuse	6-6	(1) Magnetron	
	g. Interlock	6-6	(2) Video Amplifier	
	b. Relay Contacts	6-6	(3) Crystal	
	L Antenna Reflector	6-7	f. Synchro System	
	j. Rust and Corrosion	6-7	6. Repair	
3.	Mechanical Check	6-7	s. Crystal Current Adjustment	
	s. Terminal Strips	6-7	b. Adjustment of R1301	
	b. Cables	6-7	c. Adjustment of R2209	
4.	Electrical Check	6-7	d. Adjustment of R109	7-40
	4. Blown Fuse Indicators	6-7	. Test Equipment	
	b. Test Voltages and Waveforms	6-7	(1) Tube Tester (TV-3/U Series)	7-40
	c. Set of Spare Tubes	6-7	(2) Voltohmmeter (TS-352/U Series)	
	d. Inspection of Electrical Components	6-8	f. Component Replacement	7-40
			(1) Fuses	7-40
	e. Operating Controls	6-0	(a) General	7-40
S	ECTION 7-CORRECTIVE MAINTENANG	CE.	(b) Fuse Maintenance	7-40
	DA TON		(2) Tubea	7-40
1.	General	7-1	(3) Capacitors	
2.	Failure Report	7-1	(4) Resistors	
3.	Theory of Localization	7-1	(5) Motors and Synchros	
	4. General	7-1	g. Special Procedures for Disassembly	
	b. Power	7-1	(1) General	
	c. Waveforms	7-1	(2) Magnetron	
	d, Servicing Block Diagram	7-1	(3) Crystal	
	e. Front Panel Controls	7-1	(4) Video Amplifier	
4	System Trouble Shooting	7-1		
7.	Sharen Tinnete successed	/-1	7. Maintenance Adjustments	1-4

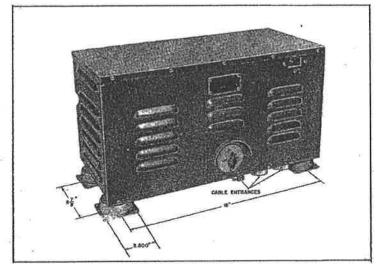


Figure 3-18. Gyro Compass Synchro Amplifier Mark 3 Mod. 1

Cable Entrances and Mounting Details

4. PROTECTION OF EXPOSED UNITS.

All terminal tubes and cables should be carefully chromated and painted after installation to prevent corrosion.

5. CABLING.

. GENERAL INSTRUCTIONS.

Refer to the Interconnection Wiring Diagram (figure 3-19), and carefully follow all specifications as to the cable type.

Refer to figure 3-20 for Primary Power Distribu-

Use standard Navy armored cables for all interunit connections. Run all cables in accordance with standard Navy wiring practice.

Lug and number all individual conductors. Take care to prevent short circuits at terminal strips and jack assemblies. Remove insulation from conductors only far enough to make good soldered connections, and avoid dropping solder and wire clippings between terminals. Place a short piece of spaghetti tubing over the junction of each conductor where it enters the shank of the soldering lug. This will prevent frayed insulation, broken leads, and shorts between adjacent lugs. Check all jacks and plugs for tightness. Lace tightly into cables all leads terminating on terminal strips or on plug or jack assemblies.

Bond all external shielding (armor) at several points to the ship's common grounding strip to prevent or lessen interference between the Radar Set and other equipment.

DECLASSIFIED
Authority_NND974382

The armor on the power cables should be grounded in accordance with "General Specifications for Machinery for Vessels of the U. S. Navy" (see S-62-2). The armor should be grounded to the ship's structure closely adjacent to the unit to which the cable connects, and also at several points along the cable length within the space, preferably at every other cable hanger. Grounding of armored steel cables should be done by cleaning the armor of the cable at the point where the securing clamp of the grounding device is fastened and grounding this clamp to the ship's structure with a strip of sheet steel which is $3/8'' \equiv 1/32''$. One end of the steel strip should be fastened with a securing clamp and the other end with machine screws to a suitable pad welded to the ship's structure.

b. CABLES.

The cables listed below are multiconductor cables used in the system.

Cable	Location of Cable
R-EC 1	Power Supply to 115v, 60 cycle supply
R-EC 2	Computer to Power Supply
R-EC 3	Computer to Receiver-Transmitter
R-EC 4	Power Supply to Receiver-Transmitter
R-EC 5	Synchro Amplifier to Computer
R-EC 6	Computer to L.S.O. Speed Indicator
R-EC 7	Computer to C.C.A. Room Speed Indicator
R-EC 8	Computer to Air Officer Speed Indicator
R-EC 9	Computer to Wind Intensity Circuit

CONFIDENTIAL

CONFIDENTIAL NAVSHIPS 91778(A)

-- AN/SPN-12(XN-1) PARTS LIST

	TABLE 8-4	TABLE OF REPLAC	EABLE PARTS
REFERENCE DESIGNATION	STOCK NUMBER	NAME AND DESCRIPTION	LOCATING FUNCTION
XV2202	•	SOCKET, ELECTRON TUBE: 8 contact octal; round excluding mounting flange; dim. excluding mounting end terminals 1-7/64 in. dim, 31/64 in. deep; mica filled bekelite body; mounted by moulded in plate w/two 5/32 in. dim holes located 1-1/2 in. o to c, 1-7/64 in. dia chasmis hole required; American Phenolic Corp. MIP-8T;	For V2202
		Same es XVIB01	0 1000
XV2203		Same as XV2202	For V2203
XV2204		Same as XV2202	For V2204
XY2205		Same as XV2202	For V2205
C2301	e 2.	CAPACITOR FIXED, ELECTROLYTIC: 1 section; 2000 mfd; 50V DC working; moisture proof plastic case; dim. 1-13/16 im. diam 4-3/8 im. 1g; 2 solder lug terminals on one end; bracket for vertical mounting; polarised; P.R. Mallory Co., Inc. type IIC-5020.	Pilter
C2302		Same as C2301	Filter
C2303		Same as C2301	Filter
C2304		Same as C2301	Filter
C230.5		Same as C2301	Filter
C2306		Some ns C2301	Filter
CR2301		RECTIFIER, METALLIC: selenium; designed for single phase full wave circuit MDCA Ref Dwg Group 23; input 78 v single phase; output 40-60 v, u smps max, full wave rectification; rectangular shape; dim. excluding mounting and terminals 4 in. square by 8-1/4 in. deep; two no. 5/16-18 thread by 5/8 in. 1g mounting studs, one each end; 3 solder lug terminals located one side; Sarkes Tarxian Inc.; D-33.	rectifier
E2301	N17-B-77586-2571	TERMINAL ECARD: molded mice filled phanolic; 3 double screw type terminals; barrier type; over-all dim. 2-1/16 in. 1g, 1-1/8 in. wide, 33/64 in. high; four 0.175 in. dim mounting holes on 1-3/4 in. by 7/16 in. mounting centers; Howard B. Jones, 3-141-0; Raytheon part \$247-1015G3.	General use
E2302 thru E2311	ĸ	NOT USED	
		at a	
	2.7	l.	_

CONFIDENTIAL NAVSHIPS 91778(A)

AN/SPN-12(XN-1)
PARTS LIST

TABLE 8-4		TABLE OF REPLACEABLE PARTS			
REFERENCE DESIGNATION	STOCK NUMBER	NAME AND DESCRIPTION	LOCATING FUNCTION		
91005	N17-3-72396-1763	SWITCH, TOOGLE; JAN TYPE ST42E; single pole, double threw; rated 0.75 amp DC, 15 amp AC at 125v; Spec JAN-S-23; Catlor Hammer Raytheon part #228-1001P5.	Good-had switch		
\$1006.		Same as \$1001	Local remote switch		
51007		Same as \$1001	MAN - AGC switch		
T1001	si si	TRANSPORMER, POWER, SLEP DOWN; open metal frame; input life, 60 cycles, 1 phase; 1 cytput winding, 75v at 1.5 amp output; test v 1500 v rms; air cooled; permafil and varnish impregnated dim. 3-1/4 im. max lg, 3-1/8 in. max wide, 4-1/16 im. max high; 4 selder lug terminale, 2 on frant, 2 on back; four 1/4 im. dia meunting holes on 2-7/16 im. by 1-5/8 im. meunting centers; electrostatic shielding; Raytheen part \$222-1716GI.	Synchro seroing voltage		
TP1001	a a	CONNECTOR, RECEPTACLE: 1 round female contact; straight type; over-all dim. 29/32 in. 1g excluding terminals, 1/2 in. dia; cylindrical, brass barrel, bakelite top body; nts w/no. 3/16-32 thread by 3/4 in. 1g on body; includes 2 washers and nut; Hugh H. Eby, \$49.	Video imput test point		
TP1002	÷ 5	Same as TP1001	Frequency multiplier output test point		
XF1001 thru XF1003		NOT USED			
XF1094	N17-F-74267-6921	ROLDER, FUSE: for one 1/4 in. x 1-1/4 in. or 9/32 in. x 1-1/4 in. glass fuse; melded bakelite body w/cepper clips; 18 amp; o/a dimen 2-7/16 in. lg x 3/4 in. diam; marking of "FUSE" with arrow; Busaman Mfg. Co.; HCM; Baytheon part #343-1001P1.	Fer F100%		
XF100'S		Sume as XF100#	For F1005		
XF1006		Same as XF100%	Fer F1005		
X11001	N17-L-76656-2447	LAMPHOLDER: single holder; necommedates miniature base lamp; rated 125 or 250v, 1/4 watt; brass body; over-all dim. 1-17/32 in. 1g by 15/16 in. OD; 2 solder lag terminels; mounts w/no. 11/16-27 thread; includes built in resistor, washer, lookwasher and nut; Dtal Light Corp.; 95408-93; Raytheen part \$281-1017P1.	For 11001		
	(a _y				
	9	*Not furnished as a maintenance part. If failure occurs, do not request replace- ment unless the item cunnot be repaired of fabricated.	1		

AN/SPN-12(XN-1) PARTS LIST

CONFIDENTIAL NAVSHIPS 91778(A)

	TABLE 8-4	TABLE OF REPLAC	EABLE PARTS
REFERENCE DESIGNATION	STOCK NUMBER	NAME AND DESCRIPTION	LOCATING FUNCTION
E1012	M17-B-77988-5571	TERMINAL BOARD: black wolded phenolic board; 12 double screw terminals; w/barriers; over-all dim. 6 in. 1g, 1-1/8 in. wide, 33/64 in. deep; four 0.175 in. dia mounting holes on 5-11/16 in. by 7/16 in. mounting conters; Howard B. James, 12-141-0; Raytheon part \$247-1005G12.	General use
E1013		Sens. na 21012	General use
B1014		Same as E1012	General use
E1015		TERMINAL BOARD: black moulded phenolic board; 8 domble screw terminals; w/barriers; over-all dim. 4-1/4 in. 1g, 1-1/8 in. wide, 33/64 in. deep; four 0:175 in. dia mounting holes on 3-15/16 in. by 7/16 in. mounting centers; Howard B. Jonen, 3-141-0; Reytheon part \$247-1005GB.	General use
E1016		Seme 4s E1015	General use
E1017	N17-B-78039-6377	TEMMINAL BOARD: black moulded phenolic board; 14 double screw terminals; w/barriers; over-all dim. 6-7/8 im. lg, 1-1/8 im. wide, 33/64 im. deep, four 0.175 im. dim mounting holes on 6-9/16 im. by 7/16 im. mounting atmeters; Howard B. Jones, 14-141-0; Raytheon part #247-1005G14.	General use
E1018		Same as 21017	General use
E1019		Same as E1017	General use
E1020.		Same as E1017	Descral was
E1021	N16-P-403502-90/4	PLATE, IDENTIFICATION: Lamicoid, ;black; rectangular shape; 7-23/32 in. lg, 1-5/16 in. wide, 1/16 in. thick; four 13/64 in. dis mounting holes on 7-5/16 in. by 1/2 in. mounting centers; marked "E1001"; Raytheon part #6 107 305-15991.	Pop Elodi
E1022	N16-P-403502-206	PLATE, IDENTIFICATION: Leminoid, black; rectangular shape; 7-23/32 in. 1g, 1-15/16 in. wide, 1/16 in. thick; four 13/64 in. dis mounting holes on 7-5/16 in. by 1/2 in. mounting centers; marked "E1002"; Raytheon part \$8107305-161P1.	1
		4	120
		3	
22			
	v kěl dř	*Not furnished as a maintenance part. If failure occurs, do not request replace- ment unless the item cannot be repaired or fabricated.	

DECLASSIFIED
Authority NND974382

NFIDENTIAL Y INFORMATION

AN/SPN-12(XN-1)

CONFIDENTIAL NAVSHIPS 91778(A)

Section 3
Paragraph 5 g (2) (a)

trance. This will make the entrance or passage watertight when the tube is drawn up.

If a brass gland nut is used with armored cable, paint the armor with zinc chromate or a 2-to-1 mixture of zinc dust and petrolatum to prevent galvanic action.

(b) ATTACHMENT TO UNIT OR BULKHEAD.

Screw the neck of the tube into the unit or bulkhead and tighten securely with a wrench.

(c) INSERTION OF CABLE

Slip the gland nut and gland ring onto the cable and insert the cable into the tube end until the armor just reaches the narrowest portion (beginning of the neck).

Note

All steel gland nuts should be zinc-plated,

(d) RETAINER PACKING.

With the gland nut and gland ring pulled back out of the way, insert one turn of retainer packing of the correct width to fill the space between the cable and the tube. Cut off the packing to overlap approximately 1/4". Tamp the packing firmly in place, using a wooden offset tamping tool or a plumber's caulking iron.

(#) SEALING PACKING.

Insert several turns of sealing packing of the correct width to fill the space, tamping each turn firmly in place. Use as many turns as necessary to fill the remaining depth of the tube, but leave just enough depth for one final turn of retainer packing. (It separate rings of sealing packing are used instead of one long piece, the overlaps should be staggered to avoid centinuous cracks.)

(f) FINAL RETAINER PACKING.

Insert one turn of retainer packing, overlapping the ends approximately 1/4". If the cable is armored, use metallic retainer packing to ground the armor to the tube. Tamp the packing firmly until two threads are exposed on the inside of the tube. These are sufficient to start the gland nut without cross-threading.

(g) GLAND NUT.

Insert the metal gland ring. Carefully start the gland nut into the threads of the tube, avoiding cross-threading, then set it up tightly enough with a wrench to make a bond between the cable and the packing.

CAUTION

While the pressure thus developed within the tube will vary with the type of cable,

care must be taken not to apply a pressure great enough to damage the cable.

Note

When extra-flexible, rubber-covered cables are run through terminal tubes, one of the following special packings should be used:

(1) Split rings of soft, live rubber having a square cross section 1/4", 5/16", or 3/8", as required to fit the space between the cable and the tube. The ends of the rings should be skived and as many rings used as required to fill the packing space. The rubber may be obtained in helical form, if desired, and cut into rings as above.

(2) A long strip of soft, live rubber of circular cross section and of the proper diameter to fit the space between the cable and the tube applied in one continuous piece and wrapped spirally around the cable.

(b) PLASTIC SEALER.

After packing the tube and setting up the gland nut, fill the space between the cable and the tube with plastic sealer. This should be done both at the gland nut end and at the neck end (except, of course, on stuffing tubes and kick-pipes).

- 1. To ensure thorough application at the gland nut end, temporarily remove the gland nut and compression ring and apply sealer to the inner wall of the tube all the way from the final retainer packing to the mouth of the tube. Also, apply sealer to the inner surface of the gland nut and to the portion of cable normally covered by the gland nut. Then replace the gland ring and gland nut, tightening the latter as before.
- 2. In most cases, the neck end can be reached for sealing by working through the unit case, or the neck may be sealed after completing step (a). (Plastic sealer is not used with extra-flexible,

rubber-covered cables.)

Note

The type of plastic sealer to be used depends on the application.

- a. Type HF sealer is used in high temperature compartments.
- b. Type H sealer is used in locations subject to weathering.
- c. Johns-Manville Duxeal is used where moisture and vermin must be excluded. As Duxeal does not flow readily at normal temperatures, it must be packed into place.

CONFIDENTIAL DECLASSIFIED INFORMATION

ORIGINAL

3-17

c. CABLE RUNS.

In planning cabling installations, it is advisable first to sketch out the outline of each unit where it is to be mounted. This will facilitate finding the best cabling layout between the various units, and will also give some idea of how the completed installation will look.

In grouping cables, it is important to avoid layouts that might build up electrical disturbances or otherwise interfere with proper circuit performance. If avoidable, RF cables should not run parallel with other ship's cables. If unavoidable, a separation of 6" to 12" should be made.

Crossovers should be kept at a minimum. If unavoidable, they should be made in a shipshape fashion. All cables should be continuous between two units.

Unsightly cable bends can often be avoided at unit entrances by the use of 45° or 90° tubes and fittings.

All coaxial cables are fragile and must be handled with great care. Do not bend large coaxial cables on less than a 7" radius, or small cables on less than a 5" radius. Keep cables away from hot exhaust pipes, etc.

Sufficient slack should be left at entrances to permit the repair of cable ends without replacing the cables. In general, allow an extra foot or two of alack.

No splice connections are permitted, except with certain types of solid dislectric coaxial cables, where a splicing technique requiring the use of special molds is employed. Refer to R.I.P., pages C-6-35 through C-6-43 inclusive.

d. CABLE ENTRANCES.

Entrance to watertight units must be made with standard Navy terminal tubes. Threaded entrances should be coated with anti-seize compound (such as 2-to-1 mixture of petrolatum and zinc dust) before installing the tube. Entrance to non-watertight units is preferably made through terminal tubes. These need not be packed watertight, but should be packed sufficiently to anchor the cables in place. In general, where alternate cable entrances are provided, entrance from the top is preferable; entrance from the side or bottom is permissible as second and third choice.

Passage of cables through decks and bulkheads exposed to weather must be made with stuffing tubes.

e. CABLE PROTECTION.

Wherever cables are liable to mechanical injury, they must be protected by suitable metal casing. All cables passing through decks must be protected by means of kick-pipes or riser-boxes.

Cables subjected to frequent or occasional immersion in water must be installed as high as possible. In such places, the cables should be coated with a paint resistant to water, oil, and acid and should be so located as to be accessible for subsequent repainting.

All armored cables should be given a coat of zinc chromate before paint is applied. Cables exposed to the weather should be painted at regular intervals.

f. CABLE SUPPORTS.

Cable supports should be designed to secure cables without damage to armor or insulation, and should be formed to make uniform contact with at least 1/2" of the cable circumference.

Coaxial cables should be secured with double-toe, loose-fitting straps. These should be snug but not too tight, since compression of the dielectric between the inner and outer conductors will lower the voltage breakdown point.

Where cables pass through non-watertight bulkheads or beams, a suitable bushing may be substituted which will permit the cable to be drawn through without damage. In cases where the thickness of the bulkhead or webbing is 1/4" or more, the bushing may be omitted but the edges of the holes must be rounded.

R. TERMINAL TUBES.

(1) GENERAL.

To ensure long, trouble-free service, all terminal tubes must be carefully packed as outlined below. Defective packing is a common cause of equipment failure.

(2) PACKING PROCEDURE FOR MULTICONDUCTOR CABLES.

The procedure given below applies for packing either terminal tubes or stuffing tubes with either armored or unarmored multiconductor cables. (Slight differences in procedure for the two types of cables are noted.)

With all multiconductor cables, it is standard practice to use retainer packing for the first and last layers and sealing packing to fill the space between these layers. Plastic sealer is applied to both ends of terminal tubes to seal the space between the cable sheath and the inner wall of the tube.

(a) SPECIAL PREPARATION.

If convenient at the time, apply plastic sealer between the cable and the neck of the tube, as outlined in step (b); or, if desired, leave this to be done later after the tube has been attached to the unit and packed.

If the tube is to be attached to a watertight unit or bulkhead, apply anti-seize compound or other noncorrosive material to the outside threads on the neck of the tube and the inside threads of the unit en-

CONFIDENTIAL SECURITY INFORMATION · DECLASSIFIED

ORIGINAL

			TABLE 8-4 C	COMBINED PARTS AND	TTS AND SPAR	E PA	SPARE PARTS LIST						
Court of the principle parties parties Court of the principle Cou	SYMBOL DESIGNATION		Publicytote:	MANY TYPE PERSONALTION	STANDARD FRONT FRO	ığ-		CONTEACTOR'S PART NUMBER	ALL SYMBOL DESPONATIONS MYDELYTO	ON TATOT STUDE SEG	SPAR EQUIPA TAG BOX NO. HO.	PARTS	STOCK COLLARS
OCHEST Court Principal State Court	0-1322	GASKET: "O" ring bydraulic packing; syn subber; akagla hole; roand, 3-7/8" CD x 3-5/8" ID x 1/8" chk; NN a cd A66250.	Rasket between rotery joint besaing and RF - imput flange	AN6230-17	N17-G-161206-	119	۵	287-100 SP17		_			
OCCUPATION 19 Particle	0-1328	GASKET: "O" ring hydraulic packing; ayn rubber; aingle hole; round; 4.7/8" CD x 4.5/8" ID x 1/8" thk; MA and AM6230.			N17-G-163041-			287-1005P25					
CASENTY OF PARTIES and 1 1/8" this 1	0-1324	GASKET: "O" wing hydraulie; ayn- chetic rubber; single hels; round, 7-1/4" OD x T" ID x 1/8" thk; ANA acd AM6230-40.	Casher between bettom bearing retainer & selector valve bousing	AN 6230-40	N17-G-166016-	and the same of the		287-1005P40		н г			
Court Cour	0-1325	GASMET: "O" hydraulio paching; syn rubine; single bole; round, ?" 1/2" CD x 7-1/4" ID x 1/8" thk; MM and M6529.		AY6230-41	N17-G-164109-		4	284-1005941		8 7			
SEMI, will barries and: 11p and: Barries of Fortage of rotary a side organical band sales and: 11p and: 12p and	0-1326	GASEET, "O" ring hydramite packing syn rubber; single hole; round, 9-3/4" OD x 9-1/2" ID x 1/4" thi; AMA and AM6230.		AN6280-50	NIT-0-16429-			287-1005P50		-			
SEML, oil; bearing seal; lip mail and de compound, heal. sabaton, grater spring steel. sabaton strong strong steel. sabaton strong	0-1327	SEAL, oil: bearing seal; lip math molded compound, heal sabeston; garter agring steel and pl; runnd; 3.850 OD x 2-5/8" ID x 5/6" the conject, p/o 0-1315	Sobwest Advance & RP Input flage of rotary Joint 0-1815	v	N16-8-150143-			1.571-1.00	0-1527	• # •			
SEMA, oil; bearing seal; lip math mended compound, heal sebastos, garter spring steel, odd pi; roand; 6-1/4 Ox 5-1/4 Dx 7/16 th o/s; single hele; modified compound, heal sebastos, modified compound, heal sebastos, modified compound, heal sebastos, seres spring seal; lip math roand; 6-1/4 Ox 5-1/4 Dx A Same se JM ox Navy Type Namber. A Same se JM ox Navy Type Na	0-1326	SEAL, oil; bearing seel; lip mail moulded compound, heel asheaton, garter spring attest. on pl; round; 4-1/2 On x 3-3/4 on pl; round; 4-1/2 On x 3-3/4 on deathers.		No.	N16-8-150143-			24 - 14 24 - 14 24 - 14 24 - 14 24 24 24 24 24 24 24 24 24 24 24 24 24		•			
SEM, oil basting seal; lip math real in the motion compound, heat asbeston, reflector bracks adapter 940 Mis-5-150143-743 STIG 287-102094 G-1830 garter spring event, on pli round; last mathematical states of the season of the	0-1329	SEAL, oil: bearing seal; lip much sealed compound, hed asketos, gares spring steal, ond pli road; 51/4 00 x 5.1/4 0			N16-2-150148-		57.52 E. S.	287-1820PS		•			
GASERT: drain pipe; neoprone; Drein pipe gasket MNIs-G-161235- 26 AA 187-1021P1 O-1331 single bols; round, 1-3/8 CO x 11/16" ID x 1/4" thk s/s. A Same as Contractor, Pert Number. A Same as Contractor, Pert Number. A Same as Contractor, Pert Number. A When equipment uprass are expended; for an anough the included in the same and dictional perce are required.	0-1330	SEAL, oil haring east; the mathematical appearation of the sale appearation area, one plication of the sale of the	7		N16-5-150143-		37.14	287-1020P4			/		
	0-1331	GASSET: drain pipe; neoprame; aingle hole; round, 1-3/8" CD x 11/16" 1D x 1/4" this s/s.	Draka pips gasket.	1	FNIF-0-161335-		8	387-1021PI					
			A Same as Contractor, is to the contractor of the	t. Number. expended: t. This i. This	1								

EXHIBIT E

60-A-1971 CVA 62

SHIP INSTRUMENTATION MANUAL

WARNING: This document contains information affecting the national defense of the United States within the meaning of the Espionage Laws; Title 18, U.S.C., Sections 793 and 794. The transmission or the revelation of its contents in any manner to an unauthorized person is prohibited by law.

NEW YORK NAVAL SHIPYARD BROOKLYN 1, NEW YORK

DEPARTMENT OF THE NAVY - BUREAU OF SHIPS - DECEMBER, 1958

DECLASSIFIED

6240566-59

CONFIDENTIAL

TABLE OF CONTENTS

CHAPTER 1 - ARRANGEMENT AND INSTRUMENTATION OF SHIPBOARD SPACES

Section		Page
Deceron	¥	
1.	Pilot House	1-1-1
2.	Combat Information Center	1-2-1
3.	Chart House	1-3-1
4.	Contain's Plat	1-4-1
5.	Rigo Tactical Plot	1-5-1
6.	Aromic Strike Control	1-6-1
7.	Rino Bridge	1-7-1
8.	Air Operations	1-8-1
9.	Primary Fly Control Station	1-9-1
10.	Secondary Fly Control Station	1-10-1
11.	Carrier Controlled Approach Room	1-11-1
12.	Tanding Signal Officer's Station	1-12-1
13.	Central Control Station	1-13-1
14.	Secondary Conning Station	1-14-1
15.	Air Defense Stations	1-15-1
16.	Interior Communications and Gyro Rooms	1-16-1
17.	Main Battery Plotting Room	1-17-1
11.		
	CHAPTER 2 - RADIO COMMUNICATIONS	
1.	General Description	2-1-1
2.	Radiophone Circuits	2-2-1
3.	Padio Telegraph Circuits	2-3-1
4.	Radio Teletype Circuits	2-4-1
5.	Radio Circuit Distribution	2-5-1
6.	Communications Console Systems	2-6-1
7.	Omnidirectional UHF Radio Installation	2-7-1
	CHAPTER 3 - RADAR, IFF, AND ECH SYSTEMS	
	18	2 1 1
1.	General Description	3-1-1
2.	Search Radar	3-2-1
3.	Radar IFF Systems	3-3-1
4.	Radar Indicators	3-4-1
5.	CCA Radar Group	3-5-1
6.	Radar Dead Reckoning And Own Ship's Course Systems	3-6-1 3-7-1
7.	BCM Systems	3-/-1
	CHAPTER 4 - MISCELIANEOUS ELECTRONICS	
	1 4 W	4-1-1
1.	General Description	4-1-1
2.	Navigational Aids	4-3-1
3.	Infrared Communication System	4-4-1
4.	Meteorological Equipment	rd _ rd _ T

CONFIDENTIAL SHIP INSTRUMENTATION MANUAL

TABLE OF CONTENTS (Continued)

CHAPTER 5 - INTERIOR COMMUNICATION SYSTEMS

Section		Page
1.	General Description	5-9-1
2.	Ship Control Metering and Indicating Systems	5-2-1
3.	Ship Control Order Systems	5-3-1
4.	Ship Control Alarm and Signal Systems	5-4-1
5.	Flight Control Systems	5-5-1
	CHAPTER 6 - TELEPHONE AND INTERIOR MESSAGE FACILITIES	
1.	General Description	6-1-1
2.	Telephone Systems	6-2-1
3.	Announcing Systems	6-3-1
4.	Interior Teletype Systems	6-4-1
5.	Communications Console Systems	6-5-1
6.	Message-Passing Facilities	6-6-1
	CHAPTER 7 - FIRE CONTROL SYSTEMS	042
1.	General Description	7-1-1
2.	Fire Control Systems	7-2-1
3.	Target Designation Systems	7-3-1

SHIP INSTRUMENTATION MANUAL

Chapter 3

RADAR, IFF, AND ECM SYSTEMS

LIST	OF	SECTIO	ONS	1	PAGE NO.
		1.	General Description		3-1-1
		2.	Search Radar		3-2-1
		3.	Radar IFF Systems	(2)	3-3-1
		4.	Radar Indicators		3-4-1
		5.	CCA Radar Group		3-5 - 1
		6.	Radar Dead Reckoning and Own-Ship's Course System		3-6-1
		7.	ECM Systems		3-7-1
LIST	OF	ILLUS	TRATIONS		PAGE NO.
	3-	1-1.	Starboard Profile Showing Radar Antenna Locations		3-1-1
	3-	6-1.	Radar Own-Ship's Course Distribution System		3-6-2